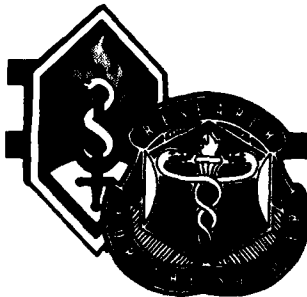


Handwritten initials

AD-A266 896



**Monograph of the Aviation
Epidemiology Data Register for CY 1991**

By

**Robert H. Schrimsher
Prime Technology, Inc.**

and

**Samuel G. Shannon
Biodynamics Research Division**

January 1993

**DTIC
ELECTE
JUL 21 1993
S E D**

93-16470



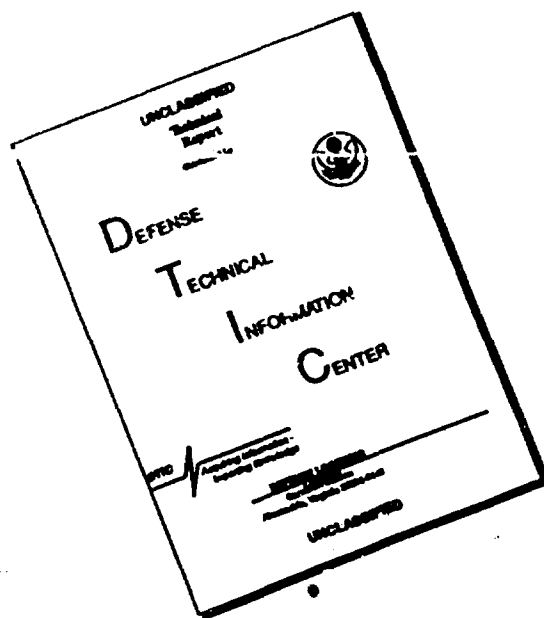
Handwritten initials

Approved for public release; distribution unlimited.

Handwritten numbers: 03 2 1 4

**United States Army Aeromedical Research Laboratory
Fort Rucker, Alabama 36362-5292**

DISCLAIMER NOTICE



**THIS DOCUMENT IS BEST
QUALITY AVAILABLE. THE COPY
FURNISHED TO DTIC CONTAINED
A SIGNIFICANT NUMBER OF
PAGES WHICH DO NOT
REPRODUCE LEGIBLY.**

Notice

Qualified requesters

Qualified requesters may obtain copies from the Defense Technical Information Center (DTIC), Cameron Station, Alexandria, Virginia 22314. Orders will be expedited if placed through the librarian or other person designated to request documents from DTIC.

Change of address

Organizations receiving reports from the U.S. Army Aeromedical Research Laboratory on automatic mailing lists should confirm correct address when corresponding about laboratory reports.

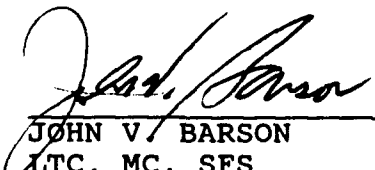
Disposition

Destroy this document when it is no longer needed. Do not return it to the originator.

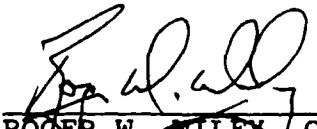
Disclaimer

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other official documentation. Citation of trade names in this report does not constitute an official Department of the Army endorsement or approval of the use of such commercial items.

Reviewed:

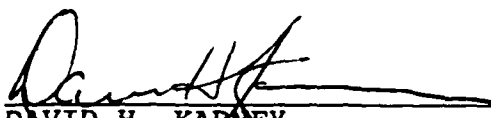


JOHN V. BARSON
LTC, MC, SFS
Director, Biodynamics
Research Division



ROGER W. WILEY, O.D., Ph.D.
Chairman, Scientific
Review Committee

Released for publication:



DAVID H. KARNEY
Colonel, MC, SFS
Commanding

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release, distribution unlimited		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE					
4. PERFORMING ORGANIZATION REPORT NUMBER(S) USAARL Report No. 93-12			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION U.S. Army Aeromedical Research Laboratory		6b. OFFICE SYMBOL (If applicable) SGRD-UAD-IE	7a. NAME OF MONITORING ORGANIZATION U.S. Army Medical Research and Development Command		
6c. ADDRESS (City, State, and ZIP Code) P.O. Box 620577 Fort Rucker, AL 36362-0577			7b. ADDRESS (City, State, and ZIP Code) Fort Detrick Frederick, MD 21702-5012		
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER Partial effort under contract No. DAMD17-92-C-2062		
8c. ADDRESS (City, State, and ZIP Code)			10. SOURCE OF FUNDING NUMBERS		
PROGRAM ELEMENT NO. 0602787A		PROJECT NO. 3M162787A879	TASK NO. BH	WORK UNIT ACCESSION NO. 144	
11. TITLE (Include Security Classification) Monograph of the aviation epidemiology data register for CY 1991					
12. PERSONAL AUTHOR(S) Robert H. Schrimsher and S. G. Shannon					
13a. TYPE OF REPORT Final		13b. TIME COVERED FROM _____ TO _____		14. DATE OF REPORT (Year, Month, Day) 1993 January	
15. PAGE COUNT 101					
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP	Data storage system, AEDR, statistical data, flight physicals		
06	05				
12	06				
19. ABSTRACT (Continue on reverse if necessary and identify by block number) The purpose of this monograph was to provide descriptive statistics within the Aviation Epidemiology Data Register (AEDR) of selected variables from an aviator's annual class 2 or class 2A Flying Duty Medical Examination (FDME) that was performed in 1991. Only aviators from a major Army component were considered, active duty, reserve, or National Guard. Descriptive data are presented in tables, which normally are defined by component, age group, and gender. Due to the small number of female aviators, some of the age-group cells are sparsely populated, especially within the reserve component. The data were organized into three areas: laboratory/clinical, vision, and hearing. Within the laboratory/clinical area, age was correlated with increases in mean values and percentages of population with values over a threshold for systolic and diastolic blood pressure, pulse, and cholesterol. Within the vision area, the likelihood of corrective lens use increased with age. For males, visual acuity decreased for both distant and near vision.					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a. NAME OF RESPONSIBLE INDIVIDUAL Chief, Scientific Information Center			22b. TELEPHONE (Include Area Code) (205) 255-6907		22c. OFFICE SYMBOL SGRD-UAX-SI

Acknowledgments

The authors wish to thank LTC Stephen E. Morse, research optometrist, Visual Sciences Branch, USAARL, for his insight and helpful suggestions regarding the analysis of the visual data. Also, considerable appreciation to Dr. Heber Jones and Mr. Andy Hidgon, USAARL Computer Applications Branch, for their advice regarding data extraction and analysis.

Accession For	
NTIS CRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution /	
Availability Codes	
Dist	Avail and/or Special
A-1	

7-10-68 10:25 AM 100-447053

Preface

This work was supported by the U.S. Army Medical Research and Development Command under Contract No. DAMD17-92-C-2062.

Table of contents

List of tables.	iv
Introduction.	1
Purpose	1
The study group	1
Methodology	1
Results/discussion.	2
Laboratory/clinical	2
Urine specific gravity.	2
Urine albumin	3
Urine sugar	3
Urine microscopic	3
EKG ICD9.	3
Hematocrit.	3
Height.	3
Body mass	3
Body mass index	3
Systolic blood pressure	4
Diastolic blood pressure.	4
Elevated blood pressure	4
Pulse	4
Valsalva.	4
Cholesterol	4
Elevated cholesterol.	4
Vision	4
Corrective lens	5
Refraction	5
Male distant vision (right)	5
Male distant vision (left).	5
Male near vision (right).	5
Male near vision (left)	5
Female distant vision (right)	5
Female distant vision (left).	5
Female near vision (right).	6
Female near vision (left)	6
Male hyperphoria.	6
Female hyperphoria.	6
Male esophoria/exophoria.	6
Female esophoria/exophoria.	6
Depth perception.	6
Night vision.	6
Hearing.	7
Reference	8
Appendix A: Tables	9

Tables	<u>List of tables</u>	Page
A-1.	Demographic data.	10
A-2.	Age-group stratified by gender and component.	11
A-3.	Required items for class 2 and class 2A FDME.	12
A-4.	Urine specific gravity stratified by gender, age-group, and component.	14
A-5.	Normal EKG stratified by gender, age-group, and component	15
A-6.	Hematocrit stratified by gender, age-group, and component	16
A-7.	Statutory height (inches) stratified by gender, age-group, and component.	17
A-8.	Body mass (in lbs) stratified by gender, age-group, and component	18
A-9.	Body mass index stratified by gender, age-group, and component	19
A-10.	Systolic blood pressure (mmHg): sitting stratified by gender, age-group, and component	20
A-11.	Diastolic blood pressure (mmhg): sitting stratified by gender, age-group, and component	21
A-12.	Elevated bp for males stratified by age-group and component	22
A-13.	Pulse: sitting stratified by gender, age-group, and component	23
A-14.	Total serum cholesterol stratified by gender, age-group, and component.	24
A-15.	Elevated total serum cholesterol stratified by gender, age-group, and component.	25
A-16.	Corrective lenses stratified by gender, age-group, and component	26
A-17.	Male refraction stratified by age-group and component	27

A-18.	Male right eye distant vision stratified by age-group and component	28
A-19.	Male left eye distant vision stratified by age-group and component	30
A-20.	Male right eye near vision stratified by age-group and component	32
A-21.	Male left eye near vision stratified by age-group and component	34
A-22.	Female right eye distant vision stratified by age-group and component	36
A-23.	Female left eye distant vision stratified by age-group and component	38
A-24.	Female right eye near vision stratified by age-group and component	40
A-25.	Female left eye near vision stratified by age-group and component	42
A-26.	Male hyperphoria stratified by age-group and component	44
A-27.	Female hyperphoria stratified by age-group and component	46
A-28.	Male esophoria/exophoria stratified by age-group and component	48
A-29.	Female exophoria/exophoria stratified by age-group and component	50
A-30.	Male right ear (500 Hz) stratified by age-group and component	52
A-31.	Male left ear (500 Hz) stratified by age-group and component	54
A-32.	Male right ear (1000 Hz) stratified by age-group and component	56
A-33.	Male left ear (1000 Hz) stratified by age-group and component	58
A-34.	Male right ear (2000 Hz) stratified by age-group and component	60

A-35.	Male left ear (2000 Hz) stratified by age-group and component	62
A-36.	Male right ear (3000 Hz) stratified by age-group and component	64
A-37.	Male left ear (3000 Hz) stratified by age-group and component	66
A-38.	Male right ear (4000 Hz) stratified by age-group and component	68
A-39.	Male left ear (4000 Hz) stratified by age-group and component	70
A-40.	Male right ear (6000 Hz) stratified by age-group and component	72
A-41.	Male left ear (6000 Hz) stratified by age-group and component	74
A-42.	Female right ear (500 Hz) stratified by age-group	76
A-43.	Female left ear (500 Hz) stratified by age-group	78
A-44.	Female right ear (1000 Hz) stratified by age-group	80
A-45.	Female left ear (1000 Hz) stratified by age-group	82
A-46.	Female right ear (2000 Hz) stratified by age-group	84
A-47.	Female left ear (2000 Hz) stratified by age-group	86
A-48.	Female right ear (3000 Hz) stratified by age-group	88
A-49.	Female left ear (3000 Hz) stratified by age-group	90
A-50.	Female right ear (4000 Hz) stratified by age-group	92
A-51.	Female left ear (4000 Hz) stratified by age-group	94

A-52.	Female right ear (6000 Hz) stratified by age-group	96
A-53.	Female left ear (6000 Hz) stratified by age-group	98

=====

This page intentionally left blank.

=====

Introduction

The U.S. Army Aviation Epidemiology Data Register (AEDR) began in 1983 and was developed as a joint effort of the U.S. Army Aeromedical Research Laboratory (USAARL) and the U.S. Army Aeromedical Activity (USAAMA) at Fort Rucker, Alabama. The AEDR is a permanent, computer-accessible repository of medical information on the Army aviation population. For a brief history of the AEDR database, see USAARL Report No. CR-89-5.

As of the end of July 1992, the AEDR contained over 71,000 records for over 235,800 individuals. The medical information is taken from annual flying duty medical examinations (FDMEs) which are recorded on Standard Forms 88 (Report of physical examination), 93 (Report of medical history), 520 (Electrocardiographic record), and other various laboratory and/or clinical forms. There are over 500 Army medical facilities that perform FDMEs throughout the world.

Purpose

The purpose of this monograph is to provide descriptive statistics for selected variables pertaining to the aviator's annual class 2 FDME. Data are presented in tables with little or no interpretation, and each table is normally defined by component, age-group and gender.

The study group

The study group represents all aviators that had a class 2 or class 2A FDME in 1991 and were a member of a major Army component, that is, active duty, reserve, or national guard. Table A-1 depicts demographic information by component and gender. Race information also is included. The data is predominately male, active duty, and white. Table A-2 shows the cell counts within each age-group by component and gender. Due to the low number of females, some of their age-group cells are very small, especially within the reserve component.

Methodology

The class 2 flight physical is the standard annual FDME, while the class 2A is an abbreviated FDME, or shorter version; therefore, the class 2A will not have as much annual data. The class 2A is required for each aviator on even age years up to 34. After age 34, aviators receive a class 2 FDME every year. Table A-3 illustrates what medical information is required for both class 2 and 2A FDMEs. The first 12 items are administrative

data, such as name, SSN, unit, etc. This monograph focuses primarily upon the items (variables) listed within Table A-3, except for some of the administrative data.

The data for the variables listed within Table A-3 were extracted from the AEDR database using a customized program developed by the USAARL computer branch personnel. This data represents only aviators' class 2 or 2A FDME that occurred during calendar year 1991 for Army components of the active duty, reserve or National Guard. It is possible for an aviator to have more than one FDME annually; however, the criteria for selection of the data stipulated that if an aviator had more than one FDME, only the data from the first class 2 or 2A FDME was taken.

Results and discussion

For functional purposes, the data were organized into three distinct areas: laboratory/clinical, vision, and hearing. The rationale for this division was to isolate the reader's general area of selected interest. A minimum and maximum value were established for many variables. This was initiated primarily to filter out extreme and unrealistic values. In most cases, the minimum and maximum values were established at ± 4 standard deviations.

Laboratory/clinical

The laboratory/clinical data includes the following variables: urine specific gravity, urine albumin, urine sugar, urine microscopic, normal EKG ICD9 code (electrocardiographic international classification of diseases, 9th edition), hematocrit, height, body mass (weight), body mass index (BMI), systolic blood pressure (sitting), diastolic blood pressure (sitting), elevated blood pressure, pulse (sitting), valsalva, cholesterol, and elevated cholesterol. BMI, elevated blood pressure, and elevated cholesterol are not part of the FDME, but were included within this report due to the authors' interest.

Within the laboratory/clinical data, age was correlated with increases in mean values and percentages of population with values over a threshold for systolic and diastolic blood pressure, pulse, and cholesterol.

Urine specific gravity

Table A-4 depicts urine specific gravity by component, gender and age-group. The minimum specific gravity was established at 1.000 and the maximum at 1.053. Any values below or above these were not considered.

Urine albumin

A negative urine albumin was found on 96.6 percent of all records; therefore, no table was developed.

Urine sugar

There is no table for urine sugar. Almost 100 percent of all records were negative.

Urine microscopic

There is no table for urine microscopic. Almost 99 percent of all records were normal.

EKG ICD9

Table A-5 depicts the percentages for EKG ICD9 codes that were normal (pass).

Hematocrit

A minimum value of 35 and a maximum value 57 were established for the hematocrit; therefore, values below or above these were not considered.

Height

Height in inches is depicted as Table A-7. If height is recorded as a fraction, it is rounded to the next whole number and entered into the AEDR. A minimum value of 60 inches and a maximum value 80 inches were established for height.

Body mass (weight)

Body mass (weight) in pounds is presented in Table A-8. A minimum value of 94 pounds and a maximum value of 261 pounds were established. If weight is recorded as a fraction, it is rounded to the next whole number and entered into the AEDR.

Body mass index

Table A-9 is body mass index (BMI). This variable is not required on either the class 2 or 2A FDME. The BMI is computed by the weight of the individual (in kilograms) divided by the height in meters squared.

Systolic blood pressure

The systolic blood pressure (sitting) is shown as Table A-10 in millimeters of mercury. A minimum value of 77 and a maximum value of 161 were established.

Diastolic blood pressure

Diastolic blood pressure (sitting) is depicted as Table A-11. A minimum value of 42 and a maximum value of 109 were established.

Elevated blood pressure

Elevated blood pressure is shown as Table A-12 for males. The definition for elevated blood pressure was established as those individuals who had greater than 140 systolic blood pressure and/or greater than 90 diastolic blood pressure. Because of the low number of females, no elevated blood pressure data is presented.

Pulse

Pulse (sitting) is presented in Table A-13. A minimum value of 30 and a maximum value of 103 were established.

Valsalva

There is no table for valsalva. Almost 100 percent of all records were normal.

Cholesterol

Table A-14 presents total cholesterol (mg/dL). A minimum value of 100 and a maximum value of 400 were established.

Elevated cholesterol

Elevated cholesterol, shown as Table A-15, is defined as total cholesterol (mg/dl) greater than 200. Elevated cholesterol is not part of the FDME; however, it was of interest to the authors.

Vision

The vision data includes: corrective lens wear, refraction examination type, distant vision right eye (uncorrected), distant vision left eye (uncorrected), near vision right eye (uncorrected), near vision left eye (uncorrected), esophoria, exophoria, hyperphoria, depth perception, and night vision.

Within the vision data, the likelihood of corrective lens use increased with age. For males, visual acuity decreased for both distant and near vision.

Corrective lens

Table A-16 depicts data regarding the wear of corrective lens (either glasses or contacts) of pilots. Corrective lens is determined by an individual having refraction information on their FDME.

Refraction

Male refraction data is presented as Table A-17. The method of refraction, either cycloplegic or manifest, also is presented. Most refractions were accomplished by the manifest method. For females, there was not enough refraction data to present.

Male distant vision (right)

The distant vision (right eye uncorrected) for males is depicted as Table A-18.

Male distant vision (left)

The distant vision (left eye uncorrected) for males is presented as Table A-19.

Male near vision (right)

The near vision (right eye uncorrected) for males is depicted as Table A-20.

Male near vision (left)

The near vision (left eye uncorrected) for males is presented as Table A-21.

Female distant vision (right)

The distant vision (right eye uncorrected) for females is shown at Table A-22. As mentioned previously, it is difficult to show trends among female aviators due to the low number. This is particularly evident in the vision area for Tables A-22 - A-25.

Female distant vision (left)

The distant vision (left eye uncorrected) for females is presented as Table A-23.

Female near vision (right)

Table A-24 shows the near vision (right eye uncorrected) for females.

Female near vision (left)

The near vision (left eye uncorrected) for females is depicted as Table A-25.

Male hyperphoria

Hyperphoria for males is presented as Table A-26. The right and left hyperphoria were combined into one continuous variable with a minimum of -2.5 to a maximum of +2.5 prism diopters for each age-group. The right hyperphoria was multiplied by -1 and then added to the left hyperphoria.

Female hyperphoria

Female hyperphoria is depicted as Table A-27 and also is one continuous variable derived by the same method as the males.

Male esophoria/exophoria

Table A-28 presents male esophoria/exophoria. This variable was derived similar to hyperphoria. That is, it was converted into one continuous variable by multiplying the esophoria by -1 and then adding the new computation to the exophoria. A minimum of -8 to a maximum of +8 prism diopters for each age-group was established.

Female esophoria/exophoria

Female esophoria/exophoria is depicted as Table A-29 and was derived in the same manner as the male's computation.

Depth perception

Most all records passed (99 percent) the depth perception test, therefore, no table is presented.

Night vision

There is no table for night vision. Almost all records (99 percent) passed.

Hearing

The audiometric hearing thresholds for Army aviators are measured in decibel (dB) for each ear at the following frequencies: 500, 1000, 2000, 3000, 4000 and 6000. These hearing threshold levels are presented in Tables A-30 through A-53 for each ear (left and right). Male data is presented first and then female. Since the number of female pilots were very low, Army components (active duty, reserve and National Guard) were collapsed into one group.

Reference

Schrimsher, R. H. 1989. Aviation epidemiology data register user's manual. Fort Rucker, AL: U.S. Army Aeromedical Research Laboratory. USAARL Report No. CR-89-5.

Appendix A.

Tables A-1 through A-53

Table A-1.
Demographic data.

	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
	N*	%	N*	%	N*	%
Male	12,204	97.4	1,268	97.8	5,968	98.5
Female	<u>320</u>	2.6	<u>29</u>	2.2	<u>91</u>	1.5
Total	12,524		1,297		6,059	

* Missing (not included)

Race	N	% *
Caucasian	18,769	95.1
Black	576	2.9
Oriental	104	.5
Other	294	1.5
Missing	<u>161</u>	
	19,904	

* Missing (not included in %)

Table A-2.

Age-group stratified by
gender and component
(N=19,879).

Sex	Age-group	<u>Active duty</u> (N=12,523)		<u>Reserve</u> (N=1,297)		<u>National Guard</u> (N=6,059)	
		N*	%	N*	%	N*	%
	≤ 24	1040	8.5	54	4.3	187	3.1
M	25-29	3280	26.9	236	18.6	1143	19.2
A	30-34	2968	24.3	222	17.5	1054	17.7
L	35-39	2158	17.7	176	13.9	631	10.6
E	40-44	1995	16.3	344	27.1	1667	27.9
	45-49	644	5.3	186	14.7	996	16.7
	≥ 50	118	1.0	50	3.9	290	4.9
	Overall	12203		1268		5968	
F	≤ 24	43	13.4	3	10.3	5	5.5
E	25-29	129	40.3	8	27.6	33	36.3
M	30-34	101	31.6	10	34.5	32	35.2
A	35-39	38	11.9	5	17.2	15	16.5
L	40-44	6	1.9	3	10.3	5	5.5
E	45-49	3	.9	0	----	1	1.1
	≥ 50	None					
	Overall	320		29		91	

* Missing (not included)

Table A-3.

Required items for class 2
and class 2A FDME.

	Class 2	Class 2A
Arrival date	X	X
Last name	X	X
Grade	X	X
Component	X	X
Social security number	X	X
Date of physical	X	X
Sex	X	X
Race	X	X
Organizational unit	X	X
Birth date	X	X
Exam facility code	X	X
Return address code	X	X
Urine specific gravity	X	
Urine albumin	X	
Urine sugar	X	
Urine microscopic	X	
EKG ICD9 code	X	X
Hematocrit vol %	X	X
Height	X	X
Weight	X	X
Systolic blood pressure (sitting)	X	X
Diastolic blood pressure (sitting)	X	X
Pulse (sitting)	X	
Glasses	X	X
Distant vision right	X	X
Distant vision left	X	X
Refraction exam type	X	
Near vision right	X	X
Near vision left	X	X
Esophoria	X	
Exophoria	X	
Right hyperphoria	X	
Left hyperphoria	X	
Depth perception	X	
Night vision	X	
Audio right 500	X	X
Audio left 500	X	X
Audio right 1000	X	X
Audio left 1000	X	X
Audio right 2000	X	X
Audio left 2000	X	X
Audio right 3000	X	X
Audio left 3000	X	X

Table A-3 (continued).

	Class 2	Class 2A
Audio right 4000	X	X
Audio left 4000	X	X
Audio right 6000	X	X
Audio left 6000	X	X
Flight surgeon	X	X
Flight surgeon status	X	X
Valsalva	X	
Dental exam	X	
Cholesterol	X	X

Table A-4.

Urine specific gravity stratified by
gender, age-group, and component
(N=15,852).

Sex	Age-group	<u>Active duty</u> (N=9,391)			<u>Reserve</u> (N=1,130)			<u>National Guard</u> (N=5,331)		
		N	Mean	SD	N	Mean	SD	N	Mean	SD
M	≤ 24	748	1.019	.006	47	1.018	.007	151	1.018	.006
	25-29	2211	1.018	.007	206	1.019	.007	912	1.018	.007
	30-34	2009	1.018	.007	185	1.018	.007	853	1.017	.006
	35-39	1858	1.017	.007	158	1.017	.007	601	1.017	.007
	40-44	1689	1.017	.007	301	1.019	.007	1564	1.017	.007
	45-49	552	1.018	.007	165	1.018	.007	903	1.017	.007
	≥ 50	107	1.018	.007	45	1.018	.006	268	1.017	.006
Total		9174	1.018	.007	1107	1.018	.007	5252	1.017	.007
F	≤ 24	36	1.019	.008	2	1.007	.003	4	1.023	.008
E	25-29	73	1.018	.007	5	1.015	.008	28	1.016	.007
M	30-34	69	1.017	.007	10	1.016	.009	26	1.016	.007
A	35-39	32	1.013	.007	4	1.015	.009	15	1.019	.006
L	40-44	4	1.011	.006	2	1.009	.006	5	1.014	.007
E	45-49	3	1.021	.007	0	---	---	1	1.020	---
	≥ 50	None								
Total		217	1.017	.007	23	1.014	.008	79	1.017	.007

Table A-5.

Normal EKG stratified by gender,
age-group, and component
(N=19,142).

Sex	Age-group	<u>Active duty</u> (N=12,178)		<u>Reserve</u> (N=1,154)		<u>National Guard</u> (N=5,810)	
		N	% Pass	N	% Pass	N	% Pass
	≤ 24	1026	89	54	83	186	93
M	25-29	3217	88	234	92	1123	95
A	30-34	2918	87	213	90	1017	95
L	35-39	2094	89	169	90	615	96
E	40-44	1893	88	326	88	1589	96
	45-49	601	87	181	92	91	95
	≥ 50	116	87	50	84	276	92
	Overall	11816		1227		5721	
F	≤ 24	43	95	3	100	5	100
E	25-29	124	92	7	100	33	100
M	30-34	98	89	10	90	30	97
A	35-39	38	87	4	100	15	93
L	40-44	6	100	2	100	5	80
E	45-49	3	100	-	----	1	100
	≥ 50	None					
	Overall	312		27		89	

Table A-6.

Hematocrit stratified by gender,
age-group, and component
(N=18,227).

Sex	Age-group	<u>Active duty</u> (N=11,816)			<u>Reserve</u> (N=1,129)			<u>National Guard</u> (N=5,282)		
		N	Mean	SD	N	Mean	SD	N	Mean	SD
	≤ 24	748	45.5	2.5	44	45.2	2.2	171	46.1	2.7
M	25-29	3153	45.2	2.4	214	45.38	2.6	1034	45.6	2.4
A	30-34	2810	45.2	2.4	198	45.0	2.4	912	45.6	2.6
L	35-39	2033	45.2	2.5	158	45.1	2.3	569	45.5	2.4
E	40-44	1829	45.0	2.5	288	45.0	2.7	1439	45.5	2.6
	45-49	576	45.2	2.6	158	45.0	2.5	825	45.6	2.5
	≥ 50	108	45.2	2.9	44	45.4	2.7	249	45.4	2.4
Total		11513	45.2	2.5	1104	45.1	2.5	5199	45.6	2.5
F	≤ 24	43	45.0	2.4	3	43.0	3.6	5	39.8	3.2
E	25-29	120	40.2	2.2	7	40.4	2.6	33	41.1	2.9
M	30-34	94	40.2	2.3	9	41.4	2.9	27	41.1	2.3
A	35-39	37	41.0	2.1	3	40.0	1.7	13	40.9	2.3
L	40-44	6	37.8	1.1	3	40.3	3.5	5	40.4	2.0
E	45-49	3	43.3	3.5	0	----	---	0	----	---
	≥ 50	None								
Total		303	40.2	2.3	25	41.0	2.8	83	40.9	2.6

Table A-7.

Statutory height (inches) stratified by
gender, age-group, and component
(N=19,196).

Sex	Age-group	<u>Active duty</u> (N=12,139)			<u>Reserve</u> (N=1,251)			<u>National Guard</u> (N=5,805)		
		N	Mean	SD	N	Mean	SD	N	Mean	SD
M	≤ 24	1023	70.5	2.5	53	70.5	2.2	185	70.6	2.5
	25-29	3207	70.6	2.5	234	70.8	2.4	1123	70.6	2.4
	30-34	2906	70.7	2.5	212	70.9	2.3	1016	70.8	2.4
	35-39	2090	70.8	2.4	168	70.8	2.2	615	70.8	2.4
	40-44	1187	70.6	2.4	326	70.6	2.5	1587	70.7	2.4
	45-49	598	70.6	2.4	181	70.8	2.5	914	70.7	2.2
	≥ 50	116	70.2	2.6	50	70.9	2.8	276	70.5	2.2
Total		11827	70.6	2.4	1224	70.8	2.4	5716	70.7	2.4
F	≤ 24	42	66.8	2.0	3	65.6	1.5	5	66.8	1.7
E	25-29	122	66.1	2.2	7	66.7	2.5	33	65.7	2.0
M	30-34	98	66.0	2.2	10	66.4	2.4	30	66.5	2.6
A	35-39	38	65.8	2.2	4	65.0	.8	15	65.8	1.6
L	40-44	6	65.6	2.4	3	65.3	2.3	5	65.2	2.5
E	45-49	3	65.3	1.5	1	69.0	---	0	----	---
	≥ 50	None								
Total		309	66.1	2.2	27	66.0	2.3	89	66.0	2.2

Table A-8.

Body mass (in lbs) stratified by gender,
age-group, and component
(N=19,179).

Sex	Age-group	<u>Active duty</u> (N=12,132)			<u>Reserve</u> (N=1,248)			<u>National Guard</u> (N=5,799)		
		N	Mean	SD	N	Mean	SD	N	Mean	SD
	≤ 24	1023	170.8	18.7	53	169.2	19.0	186	169.8	20.2
M	25-29	3206	174.0	19.7	234	176.9	19.6	1120	176.2	20.8
A	30-34	2904	177.5	20.1	212	180.3	19.0	1013	178.7	20.4
L	35-39	2089	179.6	20.4	168	179.7	19.8	615	181.3	19.4
E	40-44	1885	181.2	19.8	324	183.1	20.6	1585	184.2	20.5
	45-49	597	182.2	19.3	180	184.0	21.2	915	184.6	20.4
	≥ 50	116	178.8	18.5	50	186.6	17.8	276	183.4	19.0
Total		11820	177.2	20.1	1221	180.6	20.1	5710	180.9	20.7
F	≤ 24	43	138.6	11.8	3	130.0	10.0	5	139.0	9.0
E	25-29	124	133.6	14.3	7	136.1	10.9	33	136.1	16.8
M	30-34	98	138.0	17.9	10	143.9	11.4	30	143.2	18.0
A	35-39	38	140.1	14.2	4	126.2	16.0	15	136.9	10.3
L	40-44	6	141.5	21.4	3	138.6	5.6	5	140.6	13.0
E	45-49	3	141.6	17.9	0	---	---	1	148.0	---
	≥ 50	None								
Total		312	136.7	15.5	27	137.1	12.4	89	139.2	15.7

Table A-9.

Body mass index* stratified by gender,
age-group, and component
(N=19,196).

Sex	Age-group	<u>Active duty</u> (N=12,136)			<u>Reserve</u> (N=1,252)			<u>National Guard</u> (N=5,808)		
		N	Mean	SD	N	Mean	SD	N	Mean	SD
M	≤ 24	1023	24.1	2.1	53	23.9	2.1	186	24.0	2.3
	25-29	3207	24.5	2.1	234	24.7	2.3	1123	24.8	2.4
	30-34	2905	24.9	2.1	212	25.2	2.1	1016	25.1	2.3
	35-39	2089	25.2	2.1	169	25.1	2.2	615	25.4	2.1
	40-44	1887	25.2	2.1	326	25.8	2.4	1588	25.9	2.2
	45-49	597	25.7	2.1	181	25.8	2.2	915	25.9	2.2
	≥ 50	116	25.5	2.3	50	26.1	2.0	276	25.9	2.0
Total		11824	24.9	2.2	1225	25.3	2.3	5719	25.4	2.3
F	≤ 24	43	22.1	2.0	3	21.2	1.6	5	21.9	0.8
	25-29	124	21.6	2.0	7	21.6	2.1	33	22.1	2.2
	30-34	98	22.2	2.4	10	23.0	2.2	30	22.7	2.5
	35-39	38	22.7	1.9	4	21.1	3.1	15	22.3	1.7
	40-44	6	23.1	3.2	3	22.9	2.3	5	23.2	1.3
	45-49	3	23.3	3.0	0	----	---	1	21.9	---
	≥ 50	None								
Total		312	22.0	2.2	27	22.1	2.2	89	22.4	2.1
* BMI =		$\frac{\text{weight (kg)}}{\text{height}^2 \text{ (m)}}$								

Table A-10.

Systolic blood pressure (mm Hg): sitting stratified
by gender, age-group, and component
(N=19,120).

Sex	Age-group	<u>Active duty</u> (N=12,108)			<u>Reserve</u> (N=1,222)			<u>National Guard</u> (N=5,790)		
		N	Mean	SD	N	Mean	SD	N	Mean	SD
M	≤ 24	1022	118.9	9.8	53	117.8	10.7	186	117.9	9.0
	25-29	3208	118.9	10.0	227	119.5	10.2	1121	118.2	10.2
	30-34	2907	119.1	10.1	205	119.0	9.8	1013	118.5	10.1
	35-39	2081	119.2	10.2	164	119.6	10.0	614	119.2	10.1
	40-44	1876	120.1	10.6	319	119.4	11.6	1584	119.2	10.3
	45-49	590	121.0	10.9	180	121.5	10.7	908	120.4	10.8
	≥ 50	114	121.6	10.5	47	123.8	9.7	275	122.3	11.0
Total		11798	119.3	10.2	1195	119.8	10.6	5701	119.2	10.4
F	≤ 24	43	110.2	8.5	3	111.3	11.0	5	108.4	5.8
E	25-29	123	108.6	8.7	7	112.8	8.7	33	110.1	9.1
M	30-34	98	108.0	9.5	10	117.9	9.4	30	111.6	9.9
A	35-39	37	113.3	11.6	4	112.0	4.0	15	108.0	11.7
L	40-44	6	112.3	13.5	3	106.0	8.7	5	104.0	7.3
E	45-49	3	121.0	28.1	0	---	---	1	102.0	---
	≥ 50	None								
Total		310	109.3	9.9	27	113.6	8.9	89	109.7	9.6

Table A-11.

Diastolic blood pressure (mm Hg): sitting stratified
by gender, age-group, and component
(N=19,120).

Sex	Age-group	<u>Active duty</u> (N=12,108)			<u>Reserve</u> (N=1,222)			<u>National Guard</u> (N=5,790)		
		N	Mean	SD	N	Mean	SD	N	Mean	SD
	≤ 24	1022	73.4	8.3	53	72.4	9.1	186	75.1	8.1
M	25-29	3208	74.1	8.3	227	74.5	7.9	1121	75.0	7.6
A	30-34	2907	74.6	8.0	205	75.0	8.0	1013	75.8	7.8
L	35-39	2081	75.4	8.3	164	75.6	7.8	614	77.1	7.7
E	40-44	1876	76.6	8.1	319	77.6	8.4	1584	77.5	7.5
	45-49	590	77.7	8.2	180	78.1	7.9	908	77.8	7.4
	≥ 50	114	77.3	8.0	47	78.8	7.4	275	78.6	7.4
Total		11798	75.0	8.3	1195	76.2	8.3	5701	76.7	7.7
F	≤ 24	43	68.6	7.7	3	68.0	2.0	5	70.8	7.5
E	25-29	123	68.5	7.7	7	71.2	5.5	33	69.0	7.8
M	30-34	98	66.3	8.7	10	70.7	7.9	30	72.1	6.7
A	35-39	37	69.8	7.4	4	68.0	7.4	15	70.4	7.5
L	40-44	6	69.1	8.4	3	65.3	4.1	5	74.4	6.6
E	45-49	3	77.3	16.1	0	---	---	1	60.0	---
	≥ 50	None								
Total		310	68.1	8.1	27	69.5	6.3	89	70.5	7.3

Table A-12.

Elevated bp* for males stratified
by age-group and component.

Sex	Age-group	<u>Active duty</u>			<u>Reserve</u>			<u>National guard</u>		
		N	# Meeting def		N	# Meeting def		N	# Meeting def	
	≤ 24	1022	25	(2.5)**	53	2	(3.8)**	186	5	(2.7)**
M	25-29	3208	91	(2.9)	227	10	(4.4)	1121	33	(2.9)
A	30-34	2907	90	(3.1)	205	8	(3.9)	1013	33	(3.3)
L	35-39	2081	94	(4.5)	164	4	(2.4)	614	25	(4.1)
E	40-44	1876	111	(6.0)	319	24	(7.5)	1584	72	(4.6)
	45-49	590	47	(8.0)	180	12	(6.7)	908	57	(6.2)
	≥ 50	114	9	(7.9)	47	4	(8.5)	275	24	(8.7)
Total		11798	467	(3.9)	1195	64	(5.3)	5701	249	(4.3)

* Elevated blood pressure defined as individuals
≥ 140 systolic bp and/or ≥ 90 diastolic bp

** indicates % of individuals meeting elevated bp
definition

Table A-13.

Pulse: sitting stratified by gender,
age-group, and component
(N=16,678).

Sex	Age-group	<u>Active duty</u> (N=10,149)			<u>Reserve</u> (N=1,146)			<u>National Guard</u> (N=5,383)		
		N	Mean	SD	N	Mean	SD	N	Mean	SD
	≤ 24	805	65.6	8.6	47	65.7	8.5	150	66.5	8.4
M	25-29	2357	65.3	8.8	191	66.8	8.8	888	66.3	9.1
A	30-34	2143	66.0	9.2	179	66.0	9.0	815	66.5	8.8
L	35-39	2039	66.6	9.2	164	66.1	8.7	609	67.3	8.6
E	40-44	1851	66.7	9.5	313	67.3	9.4	1570	67.6	9.1
	45-49	587	67.9	9.7	179	66.4	8.9	905	67.4	9.1
	≥ 50	114	67.2	9.5	47	67.7	8.2	270	68.4	8.8
Total		9896	66.2	9.2	1120	66.6	9.0	5707	67.1	9.0
F	≤ 24	39	65.1	8.1	2	78.0	5.6	4	59.0	7.5
E	25-29	91	64.4	7.0	7	70.0	9.3	29	66.1	9.5
M	30-34	76	67.6	10.3	10	68.4	5.9	22	65.4	9.8
A	35-39	38	65.5	9.2	4	63.5	11.3	15	68.9	12.8
L	40-44	6	69.5	11.0	3	70.0	11.1	5	66.0	7.4
E	45-49	3	71.6	4.5	0	---	---	1	72.0	---
	≥ 50	None								
Total		253	65.8	8.8	26	69.0	8.5	76	66.1	10.1

Table A-14.

Total serum cholesterol stratified
by gender, age-group,
and component
(N=18,629).

Sex	Age-group	<u>Active duty</u> (N=11,710)			<u>Reserve</u> (N=1,206)			<u>National Guard</u> (N=5,713)		
		N	Mean	SD	N	Mean	SD	N	Mean	SD
	≤ 24	980	172.4	30.6	50	174.9	26.8	178	171.0	29.9
M	25-29	3058	180.5	33.	223	183.4	33.0	1085	181.1	33.1
A	30-34	2768	190.4	35.0	196	187.2	32.4	991	186.4	34.3
L	35-39	2039	197.9	35.0	162	198.4	33.2	605	194.5	34.7
E	40-44	1856	204.1	34.6	319	204.9	34.7	1854	203.4	34.8
	45-49	592	209.1	35.3	179	205.1	32.0	911	205.6	36.2
	≥ 50	114	212.7	34.8	50	205.1	30.2	271	202.9	28.8
Total		11407	190.9	35.8	1179	195.8	34.3	5625	194.4	35.8
F	≤ 24	42	180.6	28.5	3	190.0	16.0	5	182.6	23.4
E	25-29	122	180.3	32.6	7	179.8	26.4	33	174.0	37.8
M	30-34	92	179.0	32.6	10	181.9	39.6	29	178.8	30.1
A	35-39	38	188.4	28.1	4	180.0	18.8	15	182.5	28.3
L	40-44	6	174.1	31.7	3	207.6	44.4	5	214.8	26.5
E	45-49	3	231.3	98.0	0	-----	-----	1	176.0	---
	≥ 50	None								
Total		303	181.3	32.7	27	185.1	31.6	88	179.9	33.0

Table A-15.

Elevated* total serum cholesterol stratified by
gender, age-group, and component
(N=18,628).

Sex	Age group	<u>Active duty</u> (N=11,710) #			<u>Reserve</u> (N=1,206) #			<u>National Guard</u> (N=5,712) #		
		N	Meeting def		N	Meeting def		N	Meeting def	
	≤ 24	980	182 (18.6)**		50	9 (18.0)**		178	26 (14.6)**	
M	25-29	3058	819 (26.8)		223	61 (27.4)		1085	282 (26.0)	
A	30-34	2768	1005 (36.3)		196	68 (34.7)		991	337 (34.0)	
L	35-39	2039	954 (46.4)		162	72 (44.4)		605	254 (42.0)	
E	40-44	1856	999 (53.8)		319	168 (52.7)		1854	872 (55.1)	
	45-49	592	354 (59.8)		179	92 (51.4)		911	492 (54.0)	
	≥ 50	114	74 (64.9)		50	28 (56.0)		271	136 (50.2)	
Total		11407	4387 (38.4)		1179	498 (42.2)		5625	2399 (46.2)	
F	≤ 24	42	10 (23.8)		3	1 (33.3)		5	1 (20.0)	
E	25-29	122	29 (23.8)		7	1 (14.3)		33	8 (24.2)	
M	30-34	92	21 (22.8)		10	2 (20.0)		29	8 (27.6)	
A	35-39	38	13 (34.2)		4	1 (25.0)		15	3 (20.0)	
L	40-44	6	1 (16.7)		3	1 (33.3)		5	4 (80.0)	
E	45-49	3	2 (66.7)		0	0 ----		0	0 ----	
	≥ 50	None								
Total		303	76 (25.0)		27	6 (22.2)		87	24 (27.5)	

* Elevated cholesterol are individuals with chol ≥ 200

** % individuals with chol ≥ 200

Table A-16.

Corrective lenses stratified by gender,
age-group, and component
(N=19,122).

Sex	Age-group	<u>Active duty</u> (N=12,087)			<u>Reserve</u> (N=1,243)			<u>National Guard</u> (N=5,792)		
		N*	Freq wear	% wear	N*	Freq wear	% wear	N*	Freq wear	% wear
	≤ 24	1021	73	7.1	52	11	20.4	186	13	7.0
M	25-29	3194	343	10.7	232	31	13.2	1121	145	12.9
A	30-34	2918	355	12.3	210	31	14.8	1013	158	15.6
L	35-39	2075	415	20.0	168	29	17.3	614	131	21.3
E	40-44	1867	886	46.8	325	161	49.5	1585	744	46.9
	45-49	589	531	90.2	180	153	85.0	909	751	82.6
	≥ 50	114	112	98.2	50	49	98.0	275	266	96.7
	Overall	11778	2175	23.0	1217	465	38.2	5703	2208	38.7
F	≤ 24	43	8	18.6	3	1	33.3	5	0	0.0
E	25-29	122	15	12.3	7	1	14.3	33	9	27.3
M	30-34	97	19	19.6	10	3	30.0	30	3	10.0
A	35-39	38	9	23.7	3	1	33.3	15	1	6.7
L	40-44	6	3	50.0	3	1	33.3	5	3	60.0
E	45-49	3	3	100	0	-	----	1	1	100
	≥ 50	None								
	Overall	309	57	18.4	26	7	26.9	89	17	19.1

* Missing, not included

Table A-17.

Male refraction stratified by
age-group and component.

Sex	Age- group	<u>Active duty</u>				<u>Reserve</u>				<u>National Guard</u>			
		*Type 1	**Type 2			Type 1	Type 2			Type 1	Type 2		
		N	%	N	%	N	%	N	%	N	%	N	%
	≤ 24	11	1.1	42	4.1	1	13.0	7	13.0	1	.5	7	3.8
M	25-29	31	1.0	167	5.2	1	.4	18	7.7	5	.4	54	4.0
A	30-34	18	.6	188	6.4	0	0.0	27	12.7	4	.4	67	6.6
L	35-39	15	.7	250	11.9	2	1.2	25	14.8	7	1.1	57	9.3
E	40-44	41	2.2	487	25.7	4	1.2	66	20.2	11	.7	318	20.0
	45-49	24	4.0	228	37.9	2	1.1	61	33.7	12	1.3	252	27.5
	≥ 50	1	.9	46	39.7	0	0.0	20	40.0	3	1.1	72	26.1
Total		141	9.9	1408	90.8	10	4.2	224	95.7	43	.5	827	95.0

* Refraction type 1= cycloplegic

** Refraction type 2= manifest

Table A-18.

Male right eye distant vision stratified
by age-group and component
(N=18,747).

Age-group	DVR**	<u>Active duty</u> (N=11,805)		<u>Reserve</u> (N=1,224)		<u>National Guard</u> (N=5,718)	
		N	%	N	%	N	%
≤ 24	< 20	80	7.8	8	15.1	20	10.8
	20	880	86.8	37	69.8	154	82.8
	21 - 40	46	4.5	7	13.2	9	4.8
	41 - 70	6	.6	1	1.9	3	1.6
	71 - >	3	.3	0	0	0	0
	M*	3		1		0	
25-29	< 20	283	8.8	12	5.2	122	10.9
	20	2644	82.5	192	82.4	878	78.2
	21 - 40	197	6.1	21	9.0	78	6.9
	41 - 70	56	1.7	8	3.4	26	2.3
	71 - >	24	.7	0	0	19	1.7
	M*	13		1		0	
30-34	< 20	267	9.2	10	4.7	116	11.4
	20	2345	80.8	175	82.5	763	75.1
	21 - 40	194	6.7	14	6.6	73	7.2
	41 - 70	63	2.2	10	4.7	44	4.3
	71 - >	33	1.1	3	1.4	20	2.0
	M*	16		1		1	
35-39	< 20	132	6.3	7	4.1	60	9.8
	20	1646	79.1	137	81.1	449	73.1
	21 - 40	201	9.7	18	10.7	60	9.8
	41 - 70	59	2.8	3	1.8	26	4.2
	71 - >	44	2.1	4	2.4	19	3.1
	M*	12		0		1	
40-44	< 20	106	5.6	10	4.3	156	9.8
	20	1304	69.3	227	69.5	1040	65.4
	21 - 40	267	14.2	52	13.5	198	12.5
	41 - 70	109	5.8	13	4.9	113	7.1
	71 - >	97	5.2	24	7.7	82	5.2
	M*	10		0		0	

Table A-18 (continued).

Age- group	DVR	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		N	%	N	%	N	%
45-49	< 20	28	4.7	6	3.3	56	6.1
	20	327	55.0	112	61.9	536	58.6
	21 - 40	139	23.4	31	17.1	172	18.8
	41 - 70	57	9.6	20	11.0	88	9.6
	71 - >	46	7.4	12	6.6	63	6.9
	M*	6		0		0	
≥ 50	< 20	6	5.2	1	2.0	8	2.9
	20	48	41.7	24	48.0	117	42.5
	21 - 40	43	37.4	17	34.0	99	36.0
	41 - 70	12	10.4	3	6.0	31	11.3
	71 - >	6	5.2	5	10.0	20	7.3
	M*	1		0		1	

* Missing (not included in percentages)

** English Snellen Linear System

Table A-19.

Male left eye distant vision stratified
by age-group and component
(N=18,744).

Age-group	DVL**	<u>Active duty</u> (N=11,805)		<u>Reserve</u> (N=1,222)		<u>National Guard</u> (N=5,717)	
		N	%	N	%	N	%
≤ 24	< 20	90	8.8	7	13.2	24	12.9
	20	876	85.6	37	69.8	153	82.3
	21 - 40	45	4.4	7	13.2	6	3.2
	41 - 70	10	1.0	2	3.8	4	1.6
	71 - >	2	.2	0	0	0	0
	M*	3		1		0	
25-29	< 20	299	9.3	13	5.6	124	11.0
	20	2636	82.3	191	82.0	873	77.7
	21 - 40	184	5.7	23	9.9	76	6.8
	41 - 70	59	1.8	6	2.6	32	2.8
	71 - >	26	.8	0	0	18	1.6
	M*	13		1		0	
30-34	< 20	265	9.1	10	4.7	128	12.6
	20	2354	81.1	174	80.5	759	74.7
	21 - 40	192	6.6	16	7.6	67	6.6
	41 - 70	56	1.9	8	3.8	40	3.9
	71 - >	35	1.2	3	1.4	22	2.2
	M*	16		2		1	
35-39	< 20	142	6.8	8	4.7	61	9.9
	20	1636	78.6	136	80.5	450	73.3
	21 - 40	194	9.3	19	11.2	61	9.9
	41 - 70	71	3.4	2	1.2	25	4.1
	71 - >	39	1.9	4	2.4	17	2.8
	M*	12		0		1	
40-44	< 20	115	6.1	14	4.3	159	10.0
	20	1286	68.3	226	69.5	1044	65.7
	21 - 40	282	15.0	44	13.5	213	13.4
	41 - 70	109	5.8	16	4.9	92	5.8
	71 - >	90	4.8	25	7.7	80	5.0
	M*	11		1		1	

Table A-19 (continued).

Age-group	DVL	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		N	%	N	%	N	%
45-49	< 20	29	4.9	5	2.8	75	8.2
	20	320	53.7	110	60.8	518	56.6
	21 - 40	153	25.7	34	18.8	182	19.9
	41 - 70	51	8.6	21	11.6	81	8.9
	71 - >	43	7.2	11	6.1	59	6.4
	M*	5		0		0	
≥ 50	< 20	6	5.2	3	6.0	8	2.9
	20	54	47.0	26	52.0	122	44.4
	21 - 40	35	30.4	13	26.0	88	32.0
	41 - 70	13	11.3	4	8.0	40	14.5
	71 - >	7	6.1	4	8.0	17	6.2
	M*	1		0		1	

* Missing (not included in percentages)

** English Snellen Linear System

Table A-20.

Male right eye near vision stratified
by age-group and component
(N=18,607).

Age-group	NVR**	<u>Active duty</u> (N=11,697)		<u>Reserve</u> (N=1,219)		<u>National Guard</u> (N=5,691)	
		N	%	N	%	N	%
≤ 24	< 20	55	5.4	7	13.5	16	8.6
	20	944	92.9	43	82.7	167	89.9
	21 - 40	16	1.6	2	3.8	3	1.6
	41 - 70	1	.1	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	10		2		0	
25-29	< 20	147	4.6	6	2.6	87	7.8
	20	2954	92.9	225	96.2	1011	90.5
	21 - 40	72	2.3	3	1.3	17	1.5
	41 - 70	7	.2	0	0	0	0
	71 - >	1	0	0	0	2	.2
	M*	36		0		6	
30-34	< 20	137	4.8	6	2.8	109	10.8
	20	2666	92.7	200	94.8	869	85.9
	21 - 40	64	2.2	4	1.9	27	2.7
	41 - 70	5	.2	1	.5	7	.7
	71 - >	3	.1	0	0	0	0
	M*	43		2		5	
35-39	< 20	74	3.6	6	3.6	48	7.8
	20	1849	89.5	151	89.3	516	83.9
	21 - 40	122	5.9	10	5.9	42	6.8
	41 - 70	18	.9	1	.6	5	.8
	71 - >	4	.2	1	.6	4	.7
	M*	27		0		0	
40-44	< 20	49	2.6	4	1.2	82	5.2
	20	1264	67.8	217	67.2	1018	64.3
	21 - 40	343	18.4	55	17.0	257	16.2
	41 - 70	145	7.8	24	7.4	140	8.8
	71 - >	64	3.4	23	7.1	86	5.4
	M*	28		3		6	

Table A-20 (continued).

Age-group	NVR	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		N	%	N	%	N	%
45-49	< 20	6	1.0	1	.6	12	1.3
	20	122	20.9	45	25.1	243	26.8
	21 - 40	150	25.7	53	29.6	180	19.8
	41 - 70	138	23.7	34	19.0	238	26.2
	71 - >	167	28.6	46	25.7	235	25.9
	M*	18		2		7	
≥ 50	< 20	0	0	0	0	0	0
	20	5	4.6	2	4.0	18	6.7
	21 - 40	19	17.4	8	16.0	35	13.0
	41 - 70	16	14.7	11	22.0	65	24.1
	71 - >	69	63.3	29	58.0	152	56.3
	M*	7		0		6	

* Missing (not included in percentages)

** English Snellen Linear System

Table A-21.

Male left eye near vision stratified
by age-group and component
(N=18,601).

Age-group	NVL**	<u>Active duty</u> (N=11,691)		<u>Reserve</u> (N=1,219)		<u>National Guard</u> (N=5,691)	
		N	%	N	%	N	%
≤ 24	< 20	58	5.7	7	13.5	17	9.1
	20	941	92.6	42	80.8	166	89.2
	21 - 40	17	1.7	3	5.8	3	1.6
	41 - 70	0	0	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	10		2		0	
25-29	< 20	145	4.6	7	3.0	83	7.4
	20	2956	93.1	224	95.7	1011	90.4
	21 - 40	68	2.1	3	1.3	21	1.9
	41 - 70	6	.2	0	0	1	.1
	71 - >	1	0	0	0	2	.2
	M*	41		0		5	
30-34	< 20	140	4.9	5	2.4	115	11.4
	20	2652	92.2	202	95.7	862	85.2
	21 - 40	78	2.7	3	1.4	29	2.9
	41 - 70	6	.2	1	.5	6	.6
	71 - >	0	0	0	0	0	0
	M*	42		2		5	
35-39	< 20	69	3.3	7	4.1	50	8.1
	20	1848	89.4	153	90.5	518	84.2
	21 - 40	131	6.3	8	4.7	39	6.3
	41 - 70	16	.8	0	0	4	.7
	71 - >	3	.1	1	.6	4	.7
	M*	27		0		0	
40-44	< 20	49	2.6	5	1.5	79	5.0
	20	1271	68.2	215	66.4	1029	65.1
	21 - 40	348	18.7	56	17.3	252	15.9
	41 - 70	125	6.7	26	8.0	136	8.6
	71 - >	71	3.8	22	6.8	85	5.4
	M*	29		2		8	

Table A-21 (continued).

Age- group	NVL	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		N	%	N	%	N	%
45-49	< 20	6	1.0	0	0	8	.9
	20	130	20.3	47	26.3	248	27.3
	21 - 40	150	25.8	49	27.4	183	20.2
	41 - 70	131	22.5	32	17.9	248	27.3
	71 - >	165	28.4	51	28.5	221	24.3
	M*	19		2		7	
≥ 50	< 20	1	.9	0	0	0	0
	20	4	3.7	3	6.0	0	0
	21 - 40	21	19.3	7	14.0	0	0
	41 - 70	19	17.4	9	18.0	0	0
	71 - >	64	58.7	31	62.0	0	0
	M*	7		0		0	

* Missing (not included in percentages)

** English Snellen Linear System

Table A-22.

Female right eye distant vision stratified
by age-group and component
(N=426).

Age-group	DVR**	<u>Active duty</u> (N=310)		<u>Reserve</u> (N=27)		<u>National Guard</u> (N=89)	
		N	%	N	%	N	%
≤ 24	< 20	3	7.0	0	0	1	20.0
	20	33	76.7	3	100	4	80.0
	21 - 40	6	14.0	0	0	0	0
	41 - 70	1	2.3	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	0		0		0	
25-29	< 20	8	6.6	0	0	2	6.1
	20	101	82.8	6	85.7	24	72.7
	21 - 40	7	5.7	1	14.3	3	9.1
	41 - 70	3	2.5	0	0	2	6.1
	71 - >	3	2.5	0	0	2	6.1
	M*	2		0		0	
30-34	< 20	8	8.2	1	20.0	4	13.3
	20	74	75.5	8	80.0	24	80.0
	21 - 40	9	9.2	0	0	2	6.7
	41 - 70	3	3.1	1	20.0	0	0
	71 - >	4	4.1	0	0	0	0
	M*	0		1		0	
35-39	< 20	1	2.6	0	0	0	0
	20	30	78.9	3	75.0	14	93.9
	21 - 40	5	13.2	1	25.0	1	6.7
	41 - 70	2	5.3	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	0		0		0	
40-44	< 20	0	0	0	0	0	0
	20	4	66.7	3	100	4	80.0
	25 - 40	1	16.7	0	0	1	20.0
	45 - 70	0	0	0	0	0	0
	75 - >	1	16.7	0	0	0	0
	M*	0		0		0	

Table A-22 (continued).

Age- group	DVR	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		N	%	N	%	N	%
45-49	< 20	0	0	0	0	0	0
	20	2	66.7	1	100	0	0
	21 - 40	1	33.3	0	0	0	0
	41 - 70	0	0	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	0		0		0	
≥ 50 None							

* Missing (not included in percentages)

** English Snellen Linear System

Table A-23.

Female left eye distant vision stratified
by age-group and component
(N=426).

Age- group	DVL**	<u>Active duty</u> (N=310)		<u>Reserve</u> (N=27)		<u>National Guard</u> (N=89)	
		N	%	N	%	N	%
≤ 24	< 20	3	4.7	0	0	1	20.0
	20	34	79.1	2	66.7	4	80.0
	21 - 40	5	11.6	0	0	0	0
	41 - 70	2	4.7	1	33.3	0	0
	71 - >	0	0	0	0	0	0
	M*	0		0		0	
25-29	< 20	9	7.4	0	0	2	6.1
	20	100	82.0	6	85.7	24	72.7
	21 - 40	10	8.2	1	14.3	2	6.1
	41 - 70	0	0	0	0	3	9.1
	71 - >	3	2.5	0	0	2	6.1
	M*	2		0		0	
30-34	< 20	10	10.2	1	10.0	4	13.3
	20	71	72.4	7	70.0	24	80.0
	21 - 40	9	9.2	1	10.0	2	6.7
	41 - 70	3	3.1	1	10.0	0	0
	71 - >	5	5.1	0	0	0	0
	M*	0		0		0	
35-39	< 20	2	5.3	0	0	0	0
	20	28	73.7	4	100	14	93.9
	21 - 40	6	15.8	0	0	1	6.7
	41 - 70	2	5.3	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	0		0		0	
40-44	< 20	0	0	0	0	0	0
	20	3	50.0	3	100	4	80.0
	21 - 40	2	33.3	0	0	1	20.0
	41 - 70	0	0	0	0	0	0
	71 - >	1	16.7	0	0	0	0
	M*	0		0		0	

Table A-23 (continued).

Age- group	DVL	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		N	%	N	%	N	%
45-49	< 20	0	0	0	0	0	0
	20	2	66.7	1	100	0	0
	21 - 40	1	33.3	0	0	0	0
	41 - 70	0	0	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	0		0		0	
≥ 50 None							

* Missing (not included in percentages)

** English Snellen Linear System

Table A-24.

Female right eye near vision stratified
by age-group and component
(N=425).

Age-group	NVR**	<u>Active duty</u> (N=309)		<u>Reserve</u> (N=27)		<u>National Guard</u> (N=89)	
		N	%	N	%	N	%
≤ 24	< 20	2	4.7	0	0	1	20.0
	20	40	93.0	3	100	4	80.0
	21 - 40	1	2.3	0	0	0	0
	41 - 70	0	0	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	0		0		0	
25-29	< 20	6	4.9	0	0	2	6.1
	20	112	91.8	7	100	30	90.9
	21 - 40	4	3.3	0	0	1	3.0
	41 - 70	0	0	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	2		0		0	
30-34	< 20	9	9.3	1	10.0	3	10.0
	20	86	88.7	8	80.0	27	90.0
	21 - 40	1	1.0	0	10.0	0	0
	41 - 70	0	0	1	0	0	0
	71 - >	1	1.0	0	0	0	0
	M*	1		0		0	
35-39	< 20	2	5.3	0	0	1	6.7
	20	33	86.8	3	75.0	14	93.3
	21 - 40	3	7.9	1	25.0	0	0
	41 - 70	0	0	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	0		0		0	
40-44	< 20	0	0	0	0	0	0
	20	5	83.3	2	66.7	2	40.0
	21 - 40	1	16.7	0	0	3	60.0
	41 - 70	0	0	1	33.3	0	0
	71 - >	0	0	0	0	0	0
	M*	0		0		0	

Table A-24 (continued).

Age- group	NVR	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		N	%	N	%	N	%
45-49	< 20	0	0	0	0	0	0
	20	0	0	0	0	0	0
	21 - 40	1	33.3	0	0	0	0
	41 - 70	1	33.3	0	0	0	0
	71 - >	1	33.3	0	0	1	100
	M*	0		0		0	

≥ 50 None

* Missing (not included in percentages)

** English Snellen Linear System

Table A-25.

Female left eye near vision stratified
by age-group and component
(N=425).

Age-group	NVL**	<u>Active duty</u> (N=309)		<u>Reserve</u> (N=27)		<u>National Guard</u> (N=89)	
		N	%	N	%	N	%
≤ 24	< 20	3	7.0	0	0	1	20.0
	20	39	90.0	3	100	4	80.0
	21 - 40	1	2.3	0	0	0	0
	41 - 70	0	0	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	0		0		0	
25-29	< 20	6	4.9	0	0	2	9.1
	20	114	93.4	7	100	28	84.8
	21 - 40	2	1.6	0	0	2	6.1
	41 - 70	0	0	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	2		0		0	
30-34	< 20	7	7.2	1	10.0	3	10.0
	20	86	88.7	8	80.0	26	86.7
	21 - 40	3	3.1	0	10.0	1	3.3
	41 - 70	0	0	1	0	0	0
	71 - >	1	1.0	0	0	0	0
	M*	1		0		0	
35-39	< 20	2	5.3	0	0	1	6.7
	20	34	89.5	3	75.0	14	93.3
	21 - 40	2	5.3	1	25.0	0	0
	41 - 70	0	0	0	0	0	0
	71 - >	0	0	0	0	0	0
	M*	0		0		0	
40-44	< 20	0	0	0	0	0	0
	20	6	100	2	66.7	3	60.0
	21 - 40	0	0	0	0	2	40.0
	41 - 70	0	0	1	33.3	0	0
	71 - >	0	0	0	0	0	0
	M*	0		0		0	

Table A-25 (continued).

Age-group	NVL	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		N	%	N	%	N	%
45-49	< 20	0	0	0	0	0	0
	20	0	0	0	0	0	0
	21 - 40	1	33.3	0	0	0	0
	41 - 70	1	33.3	0	0	0	0
	71 - >	1	33.3	0	0	1	100
	M*	0		0		0	
≥ 50 None							

* Missing (not included in percentages)

** English Snellen Linear System

Table A-26.

Male hyperphoria stratified by
age-group and component
(N=13,813).

Age- group	Hyper- phoria**	<u>Active duty</u> (N=7,858)		<u>Reserve</u> (N=1,034)		<u>National Guard</u> (N=4,921)	
		N	%	N	%	N	%
<hr/>							
≤ 24							
	-2.5 to -1.5	4	.6	0	0	2	1.5
	-1.0 to -.51	19	3.1	1	2.4	0	0
	-.50 to -.01	32	5.2	1	2.4	12	8.8
	.00 to .01	505	81.8	35	85.4	107	78.7
	.02 to .50	31	5.0	4	9.8	11	8.1
	.51 to 1.0	26	4.2	0	0	4	2.9
	1.51 to 2.5	0	0	0	0	0	0
	M*	409		13		50	
25-29							
	-2.5 to -1.5	11	.6	1	.6	0	0
	-1.0 to -.51	53	3.1	5	2.9	24	3.0
	-.50 to -.01	118	6.9	16	9.1	55	6.9
	.00 to .01	1343	79.1	139	79.4	622	77.8
	.02 to .50	115	6.8	13	7.4	80	10.0
	.51 to 1.0	57	3.4	1	.6	16	2.0
	1.51 to 2.5	1	.1	0	0	2	.3
	M*	1519		59		324	
30-34							
	-2.5 to -1.5	9	.6	0	0	2	.3
	-1.0 to -.51	57	3.7	1	.6	9	1.2
	-.50 to -.01	118	7.6	14	8.8	52	7.2
	.00 to .01	1179	76.0	123	76.9	569	78.4
	.02 to .50	131	8.4	18	11.3	79	10.9
	.51 to 1.0	55	3.5	3	1.9	13	1.8
	1.51 to 2.5	2	.1	1	.6	2	.3
	M*	1367		53		291	

Table A-26 (continued).

Age-group	Hyper-phoria**	Active duty		Reserve		National Guard	
		N	%	N	%	N	%
35-39							
	-2.5 to -1.5	6	.3	0	0	1	.2
	-1.0 to -.51	66	3.7	5	3.2	15	2.6
	-.50 to -.01	140	7.9	8	5.2	35	6.0
	.00 to .01	1355	76.9	127	82.5	452	77.1
	.02 to .50	130	7.4	9	5.8	74	12.6
	.51 to 1.0	62	3.5	5	3.2	9	1.5
	1.51 to 2.5	3	.2	0	0	0	0
	M*	398		15		29	
40-44							
	-2.5 to -1.5	10	.6	0	0	7	.5
	-1.0 to -.51	51	3.2	0	0	31	2.0
	-.50 to -.01	96	6.0	21	7.0	110	7.2
	.00 to .01	1248	77.5	243	81.3	1190	77.6
	.02 to .50	158	9.8	31	10.4	168	11.0
	.51 to 1.0	46	2.9	3	1.0	20	1.3
	1.51 to 2.5	2	.1	1	.3	7	.5
	M*	282		27		56	
45-49							
	-2.5 to -1.5	5	1.0	0	0	1	.1
	-1.0 to -.51	13	2.5	5	3.1	10	1.1
	-.50 to -.01	33	6.3	11	6.8	66	7.5
	.00 to .01	400	76.8	128	79.0	696	78.6
	.02 to .50	50	9.6	14	8.6	94	10.6
	.51 to 1.0	19	3.6	4	2.5	18	2.0
	1.51 to 2.5	1	.2	0	0	0	0
	M*	80		19		30	
≥ 50							
	-2.5 to -1.5	0	0	0	0	0	0
	-1.0 to -.51	3	3.1	0	0	4	1.6
	-.50 to -.01	5	5.2	5	11.6	16	6.3
	.00 to .01	80	82.5	32	74.4	190	74.2
	.02 to .50	5	5.2	5	11.6	39	15.2
	.51 to 1.0	3	3.1	1	2.3	7	2.7
	1.51 to 2.5	1	1.0	0	0	0	0
	M*	19		7		20	

* Missing (not included in percentages)

** Right & left hyperphoria combined into one continuous variable

Table A-27.

Female hyperphoria stratified by
age-group and component
(N=280).

Age- group	Hyper- phoria**	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		(N=185)		(N=22)		(N=73)	
		N	%	N	%	N	%
<hr/>							
≤ 24							
	-2.5 to -1.5	0	0	0	0	0	0
	-1.0 to -.51	3	10.0	0	0	0	0
	-.50 to -.01	0	0	1	50.0	1	33.3
	.00 to .01	25	83.3	1	50.0	2	66.7
	.02 to .50	1	3.3	0	0	0	0
	.51 to 1.0	1	3.3	0	0	0	0
	1.51 to 2.5	0	0	0	0	0	0
	M*	13		1		2	
25-29							
	-2.5 to -1.5	0	0	0	0	0	0
	-1.0 to -.51	2	3.6	0	0	1	3.7
	-.50 to -.01	6	10.7	0	0	2	7.4
	.00 to .01	44	78.6	4	100	22	81.5
	.02 to .50	1	1.8	0	0	2	7.4
	.51 to 1.0	3	5.4	0	0	0	0
	1.51 to 2.5	0	0	0	0	0	0
	M*	68		3		6	
30-34							
	-2.5 to -1.5	1	1.7	0	0	0	0
	-1.0 to -.51	2	3.3	2	20.0	0	0
	-.50 to -.01	1	1.7	0	8.8	1	4.5
	.00 to .01	53	88.3	6	60.0	18	81.8
	.02 to .50	3	5.0	2	20.0	3	13.6
	.51 to 1.0	0	0	0	0	0	0
	1.51 to 2.5	0	0	0	0	0	0
	M*	38		0		8	
35-39							
	-2.5 to -1.5	0	0	0	0	0	0
	-1.0 to -.51	4	12.5	0	0	0	0
	-.50 to -.01	1	3.1	0	0	0	0
	.00 to .01	22	68.8	4	100	15	100
	.02 to .50	3	9.4	0	0	0	0

Table A-27 (continued).

Age-group	Hyper-phoria**	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		N	%	N	%	N	%
	.51 to 1.0	2	6.3	0	0	0	0
	1.51 to 2.5	0	0	0	0	0	0
	M*	6		0		0	
40-44							
	-2.5 to -1.5	0	0	0	0	0	0
	-1.0 to -.51	0	0	0	0	0	0
	-.50 to -.01	0	0	1	50.0	1	20.0
	.00 to .01	4	100	1	50.0	4	80.0
	.02 to .50	0	0	0	0	0	0
	.51 to 1.0	0	0	0	0	0	0
	1.51 to 2.5	0	0	0	0	0	0
	M*	2		1		0	
45-49							
	-2.5 to -1.5	0	0	0	0	0	0
	-1.0 to -.51	0	0	0	0	0	0
	-.50 to -.01	0	0	0	0	0	0
	.00 to .01	3	100	0	0	1	100
	.02 to .50	0	0	0	0	0	0
	.51 to 1.0	0	0	0	0	0	0
	1.51 to 2.5	0	0	0	0	0	0
	M*	0		0		0	
≥ 50 None							

* Missing (not included in percentages)

** Right & left hyperphoria combined into one continuous variable

Table A-28.

Male esophoria/exophoria stratified by
age-group and component
(N=14,043).

Age- group	Phoria**	<u>Active duty</u> (N=8,042)		<u>Reserve</u> (N=1,044)		<u>National Guard</u> (N=4,957)	
		N	%	N	%	N	%
<hr/>							
≤ 24							
	≤ -8	0	0	0	0	0	0
	-7 to -5	5	.8	1	2.4	2	1.5
	-4 to -2	103	16.4	5	11.9	21	15.6
	-1 to +1	472	75.2	33	78.6	105	77.8
	+2 to +4	44	7.0	2	4.8	7	5.2
	+5 to +7	4	.6	1	2.4	0	0
	≥ +8	0	0	0	0	0	0
	M*	398		12		51	
25-29							
	≤ -8	2	.1	1	.6	3	.4
	-7 to -5	24	1.4	3	1.7	10	1.2
	-4 to -2	264	15.1	39	16.7	126	15.7
	-1 to +1	1308	75.0	112	47.9	594	74.1
	+2 to +4	137	7.9	19	8.1	66	8.2
	+5 to +7	8	.5	1	.4	2	.2
	≥ +8	1	.1	1	.4	1	.1
	M*	1473		58		321	
30-34							
	≤ -8	3	.2	0	0	2	.3
	-7 to -5	36	2.3	1	.6	12	1.6
	-4 to -2	283	17.8	41	25.3	153	20.9
	-1 to +1	1133	71.3	105	64.8	504	68.8
	+2 to +4	124	7.8	14	8.6	56	7.6
	+5 to +7	8	.5	1	.6	5	.7
	≥ +8	2	.1	0	0	1	.1
	M*	1329		51		283	
35-39							
	≤ -8	6	.3	0	0	0	0
	-7 to -5	37	2.1	2	1.3	13	2.2
	-4 to -2	363	20.2	29	18.1	121	20.4
	-1 to +1	1226	68.3	105	68.2	416	70.0
	+2 to +4	143	8.0	16	10.4	43	7.2
	+5 to +7	20	1.1	2	1.3	1	.2
	≥ +8	0	0	0	0	0	0
	M*	229		15		21	

Table A-28 (continued).

Age group	Phoria**	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		N	%	N	%	N	%
<hr/>							
40-44							
	≤ -8	2	.1	1	.3	2	.1
	-7 to -5	61	3.7	4	1.3	47	3.0
	-4 to -2	353	21.4	65	21.5	360	23.3
	-1 to +1	1086	65.8	201	66.6	1043	67.5
	+2 to +4	135	8.2	27	8.9	87	5.6
	+5 to +7	13	.8	4	1.3	5	.3
	≥ +8	1	.1	0	0	1	.1
	M*	242		24		44	
45-49							
	≤ -8	1	.2	3	1.8	5	.6
	-7 to -5	19	3.6	4	2.4	25	2.8
	-4 to -2	117	22.0	28	17.1	207	23.3
	-1 to +1	346	64.9	111	67.1	577	64.8
	+2 to +4	39	7.3	15	9.1	68	7.6
	+5 to +7	10	1.9	2	1.2	7	.8
	≥ +8	1	.2	1	.6	1	.1
	M*	68		17		25	
≥ 50							
	≤ -8	0	0	0	0	4	1.6
	-7 to -5	7	6.9	1	2.3	9	3.5
	-4 to -2	30	29.4	8	18.2	66	25.6
	-1 to +1	56	54.9	34	77.3	153	59.3
	+2 to +4	8	7.8	1	2.3	18	7.0
	+5 to +7	1	1.0	0	0	7	2.7
	≥ +8	0	0	0	0	1	.4
	M*	14		6		18	

* Missing (not included in percentages)

** Esophoria/exophoria combined into one continuous variable

Table A-29.

Female esophoria/exophoria stratified by
age-group and component
(N=282).

Age- group	Phoria**	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		(N=187)		(N=23)		(N=72)	
		N	%	N	%	N	%
<hr/>							
<u>≤ 24</u>							
	≤ -8	0	0	0	0	0	0
	-7 to -5	0	0	0	0	0	0
	-4 to -2	4	12.9	0	0	0	0
	-1 to +1	21	67.7	2	100	3	100
	+2 to +4	6	19.4	0	0	0	0
	+5 to +7	0	0	0	0	0	0
	≥ +8	0	0	0	0	0	0
	M *	12		1		2	
 <u>25-29</u>							
	≤ -8	0	0	0	0	0	0
	-7 to -5	0	0	1	20.0	0	0
	-4 to -2	6	10.7	2	40.0	7	25.9
	-1 to +1	45	80.4	2	40.0	19	70.4
	+2 to +4	4	7.1	0	0	1	3.7
	+5 to +7	0	1.8	0	0	0	0
	≥ +8	0	0	0	0	0	0
	M*	68		7		6	
 <u>30-34</u>							
	≤ -8	2	3.3	0	0	0	0
	-7 to -5	2	3.3	0	0	0	0
	-4 to -2	9	15.0	4	40.0	2	9.5
	-1 to +1	42	70.0	6	60.0	17	81.0
	+2 to +4	4	6.7	0	0	2	9.5
	+5 to +7	1	1.7	0	0	0	0
	≥ +8	0	0	0	0	0	0
	M*	38		0		9	
 <u>35-39</u>							
	≤ -8	0	0	0	0	0	0
	-7 to -5	1	3.0	0	0	0	0
	-4 to -2	8	24.2	1	25.0	2	13.3
	-1 to +1	21	63.6	3	75.0	11	73.3
	+2 to +4	3	9.1	0	0	2	13.3
	+5 to +7	0	0	0	0	0	0
	≥ +8	0	0	0	0	0	0
	M*	5		0		0	

Table A-29 (continued).

Age-group	Phoria**	<u>Active duty</u>		<u>Reserve</u>		<u>National Guard</u>	
		N	%	N	%	N	%
<hr/>							
40-44							
	≤ -8	0	0	0	0	0	0
	-7 to -5	0	0	0	0	0	0
	-4 to -2	1	25.0	0	0	0	0
	-1 to +1	1	25.0	2	100	5	100
	+2 to +4	2	50.0	0	0	0	0
	+5 to +7	0	0	0	0	0	0
	≥ +8	0	0	0	0	0	0
	M*	2		1		0	
45-49							
	≤ -8	0	0	0	0	0	0
	-7 to -5	0	0	0	0	0	0
	-4 to -2	0	0	0	0	0	0
	-1 to +1	2	66.7	0	0	1	100
	+2 to +4	0	0	0	0	0	0
	+5 to +7	1	33.3	0	0	0	0
	≥ +8	0	0	0	0	0	0
	M*	0		0		0	
≥ 50	None						

* Missing (not included in percentages)

** Esophoria/exophoria combined into one continuous variable

Table A-30.

Male right ear (500 Hz) stratified by
age-group and component
(N=18,542).

Age-group	Hearing level dB**	<u>Active duty</u> (N=11,601)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≤ 24	≤ 15	955	96.0	50	96.2	173	93.5
	20-35	40	4.0	2	3.8	12	6.5
	40-55	0	-	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	31		2		1	
25-29	≤ 15	2991	95.1	220	96.5	1042	92.7
	20-35	154	4.9	8	3.5	82	7.3
	40-55	0	-	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	80		6		1	
30-34	≤ 15	2714	92.8	207	98.6	959	94.4
	20-35	119	4.2	3	1.4	57	5.6
	40-55	0	-	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	90		3		1	
35-39	≤ 15	1936	94.6	157	94.0	578	94.3
	20-35	110	5.4	10	6.0	35	5.7
	40-55	1	0	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	51		3		2	
40-44	≤ 15	1758	94.1	307	93.6	1449	91.8
	20-35	106	5.7	20	6.1	140	8.8
	40-55	5	.3	0	-	4	.3
	≥ 55	0	-	1	.3	0	-
	M *	37		1		2	
45-49	≤ 15	552	92.8	169	93.4	837	91.5
	20-35	41	6.9	12	6.6	76	8.3
	40-55	2	.3	0	-	2	.2
	≥ 55	0	-	0	-	0	-
	M *	9		0		0	

Table A-30 (continued).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,601)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
> 50	≤ 15	106	91.4	45	90.0	254	92.0
	20-35	9	7.8	4	8.0	22	8.0
	40-55	1	.9	1	2.0	0	-
	≥ 55	0	-	0	-	0	-
	M *	0		0		0	

* Missing (not included in percentages)

** Decibels

Table A-31.

Male left ear (500 Hz) stratified by
age-group and component
(N=18,546).

Age-group	Hearing level dB**	<u>Active duty</u> (N=11,605)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≤ 24	≤ 15	934	93.9	50	96.2	174	94.1
	20-35	61	6.1	2	3.8	11	5.9
	40-55	0	-	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	31		2		1	
25-29	≤ 15	2975	94.6	217	95.2	1058	94.0
	20-35	169	5.4	11	4.8	67	6.0
	40-55	1	0	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	80		6		0	
30-34	≤ 15	2680	94.6	206	98.1	945	93.0
	20-35	151	5.3	4	1.9	69	6.8
	40-55	3	.1	0	-	2	.2
	≥ 55	0	-	0	-	0	-
	M *	89		3		0	
35-39	≤ 15	1913	93.4	162	97.0	576	94.0
	20-35	133	6.5	5	3.0	37	6.0
	40-55	1	0	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	50		3		2	
40-44	≤ 15	1737	92.9	295	89.9	1456	91.3
	20-35	130	7.0	33	10.1	134	8.4
	40-55	2	.1	0	-	3	.2
	≥ 55	1	.1	0	-	1	.1
	M *	36		1		1	
45-49	≤ 15	551	92.4	171	94.5	835	91.3
	20-35	41	6.9	10	5.5	77	8.4
	40-55	4	.7	0	-	1	.1
	≥ 55	0	-	0	-	2	.2
	M *	8		0		2	

Table A-31 (continued).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,605)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
> 50	≤ 15	107	92.2	46	92.0	246	89.1
	20-35	7	6.0	4	8.0	28	10.1
	40-55	2	1.7	0	-	3	.7
	≥ 55	0	-	0	-	0	-
	M *	0		0		0	

* Missing (not included in percentages)

** Decibels

Table A-32.

Male right ear (1000 Hz) stratified by
age-group and component
(N=18,543).

Age-group	Hearing level dB**	<u>Active duty</u> (N=11,605)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,722)	
		N	%	N	%	N	%
≤ 24	≤ 15	978	98.3	52	100	184	99.5
	20-35	17	1.7	0	-	1	.5
	40-55	0	-	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	31		2		1	
25-29	≤ 15	3089	98.2	225	98.7	1097	97.5
	20-35	56	1.8	3	1.3	28	2.5
	40-55	0	-	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	80		6		0	
30-34	≤ 15	2767	97.6	204	97.1	992	97.5
	20-35	66	2.3	6	2.9	24	2.4
	40-55	1	0	0	-	1	.1
	≥ 55	0	-	0	-	0	-
	M *	89		3		0	
35-39	≤ 15	1974	96.4	163	97.6	520	96.2
	20-35	70	3.4	4	2.4	22	3.6
	40-55	3	.1	0	-	1	.2
	≥ 55	0	-	0	-	0	-
	M *	51		3		2	
40-44	≤ 15	1798	96.1	311	94.8	1507	94.7
	20-35	71	3.8	15	4.6	79	5.0
	40-55	2	.1	1	.3	4	.3
	≥ 55	0	-	1	.3	1	.1
	M *	35		1		4	
45-49	≤ 15	563	94.5	170	93.9	847	92.6
	20-35	33	5.5	11	6.1	66	7.2
	40-55	0	-	0	-	2	.2
	≥ 55	0	-	0	-	0	-
	M *	8		0		2	

Table A-32 (continued).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,605)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,722)	
		N	%	N	%	N	%
≥ 50	≤ 15	102	87.9	43	86.0	253	91.7
	20-35	13	11.2	6	12.0	23	8.3
	40-55	1	.9	1	2.0	0	-
	≥ 55	0	-	0	-	0	-
	M *	0		0		0	

* Missing (not included in percentages)

** Decibels

Table A-33.

Male left ear (1000 Hz) stratified by
age-group and component
(N=18,545).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,604)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≤ 24	≤ 15	975	98.0	52	100	183	98.9
	20-35	20	2.0	0	-	2	1.1
	40-55	0	-	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	31		2		1	
25-29	≤ 15	3082	98.0	225	98.7	1100	97.8
	20-35	62	2.0	3	1.3	25	2.2
	40-55	1	-	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	80		6		0	
30-34	≤ 15	2746	96.9	207	98.6	978	96.2
	20-35	84	3.0	3	1.4	39	3.8
	40-55	2	.1	0	-	0	-
	≥ 55	1	0	0	-	0	-
	M *	90		3		0	
35-39	≤ 15	1954	95.5	163	97.6	589	96.1
	20-35	90	4.4	4	2.4	23	3.8
	40-55	3	.1	0	-	1	.2
	≥ 55	0	-	0	-	0	-
	M *	51		3		2	
40-44	≤ 15	1771	94.7	308	93.9	1508	94.6
	20-35	94	5.0	19	5.8	81	5.1
	40-55	5	.3	1	.3	4	.3
	≥ 55	1	.1	0	-	1	.1
	M *	35		1		1	
45-49	≤ 15	562	94.3	176	97.2	840	91.8
	20-35	33	5.5	5	2.8	72	7.9
	40-55	1	.2	0	-	3	.3
	≥ 55	0	-	0	-	0	-
	M *	8		0		2	

Table A-33 (continued).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,604)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≥ 50	≤ 15	102	87.9	46	92.0	251	90.7
	20-35	11	9.5	4	8.0	22	8.0
	40-55	3	2.6	0	-	2	.7
	≥ 55	0	-	0	-	1	.4
	M *	0		0		0	

* Missing (not included in percentages)

** Decibels

Table A-34.

Male right ear (2000 Hz) stratified by
age-group and component
(N=18,547).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,606)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≤ 24	≤ 15	970	97.5	52	100	178	96.2
	20-35	25	2.5	0	-	7	3.8
	40-55	0	-	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	31		0		1	
25-29	≤ 15	3066	97.5	218	96.6	1083	96.3
	20-35	78	2.5	10	4.4	42	3.7
	40-55	1	-	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	80		6		0	
30-34	≤ 15	2713	95.7	210	95.7	985	96.9
	20-35	117	4.1	9	4.3	32	3.1
	40-55	3	.1	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	89		3		0	
35-39	≤ 15	1913	93.4	156	93.4	579	94.5
	20-35	124	6.1	10	6.0	32	5.2
	40-55	11	.5	1	.6	2	.3
	≥ 55	0	-	0	-	0	-
	M *	50		3		2	
40-44	≤ 15	1705	91.1	297	90.5	1448	90.8
	20-35	145	7.7	28	8.5	132	8.3
	40-55	16	.9	2	.6	10	.6
	≥ 55	5	.3	1	.3	4	.3
	M *	35		1		1	
45-49	≤ 15	526	88.3	159	87.8	788	86.1
	20-35	62	10.4	19	10.5	109	11.9
	40-55	8	1.3	3	1.7	16	1.7
	≥ 55	0	-	0	-	2	.2
	M *	8		0		2	

Table A-34 (continued).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,606)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≥ 50	≤ 15	96	82.8	39	78.0	238	86.2
	20-35	18	15.5	9	18.0	35	12.7
	40-55	1	.9	2	4.0	2	.7
	≥ 55	1	.9	0	-	1	.4
	M *	0		0		0	

* Missing (not included in percentages)

** Decibels

Table A-35.

Male left ear (2000 Hz) stratified by
age-group and component
(N=18,547).

Age-group	Hearing level dB**	<u>Active duty</u> (N=11,606)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≤ 24	≤ 15	959	96.4	51	98.1	181	97.8
	20-35	35	3.5	1	1.9	4	2.2
	40-55	0	-	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	31		2		1	
25-29	≤ 15	2998	95.3	213	93.4	1064	94.6
	20-35	147	4.7	15	6.6	61	5.4
	40-55	0	-	0	-	0	-
	≥ 55	0	-	0	-	0	-
	M *	80		6		0	
30-34	≤ 15	6783	94.5	195	92.9	961	94.5
	20-35	153	5.4	15	7.1	56	5.5
	40-55	2	.1	0	-	0	-
	≥ 55	1	0	0	-	0	-
	M *	89		3		0	
35-39	≤ 15	1842	89.9	154	92.2	563	91.8
	20-35	195	9.5	11	6.6	48	7.8
	40-55	10	.5	2	1.2	2	.3
	≥ 55	1	-	0	-	0	-
	M *	50		3		2	
40-44	≤ 15	1627	87.0	284	86.6	1406	88.2
	20-35	212	11.3	34	10.4	168	10.5
	40-55	25	1.3	8	2.4	17	1.1
	≥ 55	7	.4	2	.6	3	.2
	M *	35		1		1	
45-49	≤ 15	490	82.2	155	85.6	754	82.4
	20-35	86	14.4	20	11.0	138	15.1
	40-55	14	2.3	5	2.8	21	2.3
	≥ 55	6	1.0	1	.6	2	.2
	M *	8		0		2	

Table A-35 (continued).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,606)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≥ 50	≤ 15	81	69.8	34	68.0	203	73.6
	20-35	27	23.3	14	28.0	59	21.4
	40-55	5	4.3	1	2.0	12	4.3
	≥ 55	3	2.6	1	2.0	2	.7
	M *	0		0		0	

* Missing (not included in percentages)

** Decibels

Table A-36.

Male right ear (3000 Hz) stratified by
age-group and component
(N=18,534).

Age-group	Hearing level dB**	<u>Active duty</u> (N=11,601)		<u>Reserve</u> (N=1,213)		<u>National Guard</u> (N=5,720)	
		N	%	N	%	N	%
≤ 24	≤ 15	946	95.1	49	94.2	176	95.1
	20-35	45	4.5	3	5.8	8	4.3
	40-55	4	.4	0	-	1	.5
	≥ 55	0	-	0	-	0	-
	M *	31		2		1	
25-29	≤ 15	2936	93.4	213	93.4	1045	93.0
	20-35	191	6.1	15	6.4	76	6.8
	40-55	18	.6	0	-	3	.3
	≥ 55	0	-	0	-	0	-
	M *	80		6		1	
30-34	≤ 15	2518	88.9	188	89.5	920	90.6
	20-35	278	9.8	20	9.5	88	8.7
	40-55	31	1.1	2	1.0	6	.6
	≥ 55	5	.2	0	-	2	.2
	M *	91		3		1	
35-39	≤ 15	1666	81.3	145	86.8	496	80.9
	20-35	324	15.8	17	10.2	96	15.7
	40-55	48	2.3	4	2.4	18	2.9
	≥ 55	10	.5	1	.6	3	.5
	M *	50		3		2	
40-44	≤ 15	1359	72.7	248	76.1	1139	71.5
	20-35	378	20.2	59	18.1	343	21.5
	40-55	105	5.6	12	3.7	86	5.4
	≥ 55	28	1.5	7	2.1	26	1.6
	M *	36		3		1	
45-49	≤ 15	361	60.7	123	68.8	569	62.3
	20-35	170	28.6	38	21.0	240	26.3
	40-55	43	7.2	18	9.9	74	8.1
	≥ 55	21	3.5	2	1.1	30	3.3
	M *	9		0		4	

Table A-36 (continued).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,606)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≥ 50	≤ 15	62	59.3	27	55.1	138	50.2
	20-35	32	27.8	11	22.4	92	33.5
	40-55	15	13.0	9	18.4	31	11.3
	≥ 55	6	5.2	2	4.1	14	5.1
	M *	1		1		1	

* Missing (not included in percentages)

** Decibels

Table A-37.

Male left ear (3000 Hz) stratified by
age-group and component
(N=18,533).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,600)		<u>Reserve</u> (N=1,214)		<u>National Guard</u> (N=5,719)	
		N	%	N	%	N	%
≤ 24	≤ 15	932	93.7	48	92.3	172	93.0
	20-35	59	5.9	4	7.7	11	5.9
	40-55	4	.4	0	-	2	1.1
	≥ 55	0	-	0	-	0	-
	M *	31		2		1	
25-29	≤ 15	2804	89.2	205	89.9	1014	90.2
	20-35	316	10.1	22	9.6	104	9.3
	40-55	24	.8	1	.4	6	.5
	≥ 55	0	-	0	-	0	-
	M *	81		6		1	
30-34	≤ 15	2400	84.7	184	87.6	869	85.5
	20-35	376	13.3	22	10.5	129	12.7
	40-55	48	1.7	4	1.9	18	1.8
	≥ 55	8	.3	0	-	0	-
	M *	91		3		1	
35-39	≤ 15	1516	74.0	136	81.4	473	77.2
	20-35	429	20.9	24	14.4	110	17.9
	40-55	83	4.1	5	3.0	23	3.8
	≥ 55	20	1.0	2	1.2	7	1.1
	M *	50		3		2	
40-44	≤ 15	1168	62.5	208	63.8	984	61.7
	20-35	499	26.7	84	25.8	421	26.4
	40-55	146	7.8	24	7.4	144	9.0
	≥ 55	56	3.0	10	3.1	45	2.8
	M *	37		3		1	
45-49	≤ 15	326	54.8	113	62.4	495	54.3
	20-35	168	28.2	38	21.0	296	32.5
	40-55	67	11.3	23	12.7	91	10.0
	≥ 55	34	5.7	7	3.9	30	3.3
	M *	9		0		5	

Table A-37 (continued).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,600)		<u>Reserve</u> (N=1,214)		<u>National Guard</u> (N=5,719)	
		N	%	N	%	N	%
≥ 50	≤ 15	55	47.4	24	48.0	119	43.3
	20-35	33	28.4	11	22.0	85	30.9
	40-55	19	16.4	11	22.0	54	19.6
	≥ 55	9	7.8	4	8.0	17	6.2
	M *	0		0		1	

* Missing (not included in percentages)

** Decibels

Table A-38.

Male right ear (4000 Hz) stratified by
age-group and component
(N=18,546).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,605)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≤ 24	≤ 15	911	91.6	51	98.1	166	89.7
	20-35	73	7.3	1	1.9	16	8.6
	40-55	10	1.0	0	-	3	1.6
	≥ 55	1	.1	0	-	0	-
	M *	31		2		1	
25-29	≤ 15	2832	89.1	198	86.8	996	88.5
	20-35	302	9.6	25	10.5	116	10.3
	40-55	39	1.2	5	2.1	12	1.1
	≥ 55	2	.1	1	.4	1	.1
	M *	80		6		0	
30-34	≤ 15	2306	81.4	168	80.0	871	85.6
	20-35	415	14.6	34	16.2	110	10.8
	40-55	99	3.5	7	3.3	29	2.9
	≥ 55	14	.5	1	.5	7	.7
	M *	89		3		0	
35-39	≤ 15	1471	71.9	124	74.3	431	70.3
	20-35	430	21.0	32	19.2	122	19.9
	40-55	101	4.9	9	5.3	49	8.0
	≥ 55	45	2.2	2	1.2	11	1.8
	M *	51		3		2	
40-44	≤ 15	1047	56.0	186	56.7	825	51.8
	20-35	530	28.3	86	26.2	481	30.2
	40-55	216	11.5	36	11.0	200	12.5
	≥ 55	78	4.2	20	6.1	80	5.5
	M *	35		1		1	
45-49	≤ 15	236	39.6	92	50.8	373	40.8
	20-35	213	35.7	45	24.9	319	34.9
	40-55	88	14.8	34	18.8	154	16.8
	≥ 55	59	9.9	10	5.5	69	7.5
	M *	8		0		2	

Table A-38 (continued).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,605)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≥ 50	≤ 15	46	39.7	14	30.0	88	31.9
	20-35	27	23.3	18	36.0	90	32.6
	40-55	21	18.1	7	14.0	68	24.6
	≥ 55	22	19.0	10	20.0	30	10.9
	M *	1		0		0	

* Missing (not included in percentages)

** Decibels

Table A-39.

Male left ear (4000 Hz) stratified by
age-group and component
(N=18,545).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,604)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≤ 24	≤ 15	879	88.3	47	90.4	166	89.7
	20-35	96	9.6	4	7.7	13	7.0
	40-55	16	1.6	1	1.9	6	3.2
	≥ 55	4	.4	0	-	0	-
	M *	31		2		1	
25-29	≤ 15	2625	83.5	189	82.9	919	81.7
	20-35	429	13.6	32	14.0	178	15.8
	40-55	86	2.7	7	3.1	26	2.3
	≥ 55	3	.1	0	-	2	.2
	M *	82		6		0	
30-34	≤ 15	2144	75.7	152	72.4	766	75.3
	20-35	538	19.0	47	22.4	197	19.4
	40-55	128	4.5	8	3.8	48	4.7
	≥ 55	24	.8	3	1.4	6	.6
	M *	89		3		0	
35-39	≤ 15	1292	63.1	115	68.9	369	60.2
	20-35	518	25.3	34	20.4	161	26.3
	40-55	187	9.1	12	7.2	58	9.5
	≥ 55	51	2.5	6	3.6	25	4.1
	M *	50		3		2	
40-44	≤ 15	842	45.0	153	46.6	677	42.5
	20-35	641	34.3	97	29.6	539	33.8
	40-55	267	14.3	53	16.2	253	15.9
	≥ 55	121	6.5	25	7.6	125	7.8
	M *	35		1		1	
45-49	≤ 15	193	32.4	71	39.2	296	32.3
	20-35	209	35.1	63	34.9	338	36.9
	40-55	134	22.2	31	17.1	194	21.2
	≥ 55	60	9.9	16	8.8	87	9.5
	M *	8		0		2	

Table A-39 (continued).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,604)		<u>Reserve</u> (N=1,216)		<u>National Guard</u> (N=5,725)	
		N	%	N	%	N	%
≥ 50	≤ 15	30	25.9	11	22.0	66	23.9
	20-35	30	25.9	17	34.0	99	35.9
	40-55	34	29.3	13	26.0	77	27.9
	≥ 55	22	19.0	9	18.0	34	12.3
	M *	0		0		0	

* Missing (not included in percentages)

** Decibels

Table A-40.

Male right ear (6000 Hz) stratified by
age-group and component
(N=18,531).

Age-group	Hearing level dB**	<u>Active duty</u> (N=11,659)		<u>Reserve</u> (N=1,212)		<u>National Guard</u> (N=5,720)	
		N	%	N	%	N	%
≤ 24	≤ 15	676	67.9	39	75.0	135	73.0
	20-35	292	29.3	12	23.1	38	20.5
	40-55	25	2.5	1	1.9	11	5.9
	≥ 55	2	.2	0	-	1	.5
	M *	31		2		1	
25-29	≤ 15	2049	65.2	176	77.5	809	71.9
	20-35	954	30.3	46	20.3	285	25.3
	40-55	117	3.7	3	1.3	23	2.0
	≥ 55	25	.8	2	.9	8	.7
	M *	80		7		0	
30-34	≤ 15	1717	60.3	139	66.2	685	67.4
	20-35	890	31.4	58	27.6	268	26.4
	40-55	171	6.0	9	4.3	49	4.8
	≥ 55	53	1.9	4	1.9	15	1.5
	M *	92		3		0	
35-39	≤ 15	1026	50.1	94	56.3	327	53.3
	20-35	759	37.1	53	31.7	217	35.4
	40-55	171	8.3	16	9.6	49	8.0
	≥ 55	92	4.5	4	2.4	20	4.1
	M *	50		3		2	
40-44	≤ 15	728	38.7	106	32.6	664	41.7
	20-35	731	39.1	148	45.5	588	36.9
	40-55	263	14.1	45	13.8	202	12.7
	≥ 55	154	8.2	26	8.0	139	8.7
	M *	36		4		2	
45-49	≤ 15	149	25.1	58	32.0	271	29.7
	20-35	230	38.8	76	42.0	361	39.6
	40-55	123	20.7	29	16.0	174	19.1
	≥ 55	91	15.3	18	9.9	106	11.6
	M *	11		0		5	

Table A-40 (continued).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,659)		<u>Reserve</u> (N=1,212)		<u>National Guard</u> (N=5,720)	
		N	%	N	%	N	%
≥ 50	≤ 15	21	18.1	10	20.0	55	20.0
	20-35	39	33.6	18	36.0	116	42.2
	40-55	28	24.1	9	18.0	57	20.7
	≥ 55	28	24.1	13	26.0	47	17.1
	M *	0		0		1	

* Missing (not included in percentages)

** Decibels

Table A-41.

Male left ear (6000 Hz) stratified by
age-group and component
(N=18,530).

Age-group	Hearing level dB**	<u>Active duty</u> (N=11,597)		<u>Reserve</u> (N=1,213)		<u>National Guard</u> (N=5,720)	
		N	%	N	%	N	%
≤ 24	≤ 15	616	61.9	36	69.2	128	69.2
	20-35	331	33.3	14	26.9	45	24.3
	40-55	40	4.0	2	3.8	12	6.5
	≥ 55	8	.8	0	-	0	-
	M *	31		2		1	
25-29	≤ 15	1793	57.1	148	64.9	733	65.2
	20-35	1112	35.4	67	29.4	332	29.5
	40-55	200	6.2	11	4.8	47	4.2
	≥ 55	37	1.2	2	.9	13	1.2
	M *	83		6		0	
30-34	≤ 15	1442	50.9	117	55.7	607	59.7
	20-35	1089	38.5	70	33.3	324	31.9
	40-55	232	8.2	19	9.0	61	6.0
	≥ 55	68	2.4	4	1.9	25	2.5
	M *	92		3		0	
35-39	≤ 15	858	41.9	74	44.3	278	45.4
	20-35	813	39.7	67	40.1	227	37.0
	40-55	258	12.6	17	10.2	80	13.1
	≥ 55	119	5.8	9	5.4	28	4.6
	M *	50		3		2	
40-44	≤ 15	564	30.2	103	31.7	530	33.3
	20-35	787	42.1	128	39.4	633	39.8
	40-55	335	17.9	55	16.9	253	15.5
	≥ 55	184	9.8	39	12.0	176	11.1
	M *	36		4		3	
45-49	≤ 15	126	21.2	47	26.0	221	24.2
	20-35	233	39.2	79	43.6	366	40.1
	40-55	125	21.0	32	17.7	187	20.5
	≥ 55	110	18.5	23	12.7	139	15.2
	M *	10		0		4	

Table A-41 (continued).

Age- group	Hearing level dB**	<u>Active duty</u> (N=11,597)		<u>Reserve</u> (N=1,213)		<u>National Guard</u> (N=5,720)	
		N	%	N	%	N	%
≥ 50	≤ 15	15	12.9	7	14.0	49	17.8
	20-35	39	33.6	20	40.0	95	34.5
	40-55	31	26.7	9	18.0	85	30.9
	≥ 55	31	26.7	14	28.0	46	16.7
	M *	0		0		1	

* Missing (not included in percentages)

** Decibels

Table A-42.

Female right ear (500 Hz)
stratified by age-group.

Age-group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
≤ 24	≤ 15	48	94.1
	20-35	3	5.9
	40-55	0	---
	≥ 55	0	---
	M *	0	
25-29	≤ 15	154	94.5
	20-35	9	5.5
	40-55	0	---
	≥ 55	0	---
	M *	2	
30-34	≤ 15	129	94.2
	20-35	8	5.8
	40-55	0	---
	≥ 55	0	---
	M *	1	
35-39	≤ 15	56	98.2
	20-35	1	1.8
	40-55	0	---
	≥ 55	0	---
	M *	0	
40-44	≤ 15	13	92.9
	20-35	1	7.1
	40-55	0	---
	≥ 55	0	---
	M *	0	
45-49	≤ 15	4	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	

Table A-42 (continued)

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
50 ≥	≤ 15	None	
	20-35		
	40-55		
	≥ 55		
	M *		

* Missing (not included in percentages)

** Includes active duty, reserve and National Guard

*** Decibels

Table A-43.

Female left ear (500 Hz)
stratified by age-group.

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
≤ 24	≤ 15	48	94.1
	20-35	3	5.9
	40-55	0	---
	≥ 55	0	---
	M *	0	
25-29	≤ 15	154	94.5
	20-35	9	5.5
	40-55	0	---
	≥ 55	0	---
	M *	2	
30-34	≤ 15	127	92.7
	20-35	10	7.3
	40-55	0	---
	≥ 55	0	---
	M *	1	
35-39	≤ 15	54	94.7
	20-35	3	5.3
	40-55	0	---
	≥ 55	0	---
	M *	0	
40-44	≤ 15	14	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	
45-49	≤ 15	4	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	

Table A-43 (continued)

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
50 ≥	≤ 15	None	
	20-35		
	40-55		
	≥ 55		
	M *		

* Missing (not included in percentages)

** Includes active duty, reserve and National Guard

*** Decibels

Table A-44.

Female right ear (1000 Hz)
stratified by age-group.

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
≤ 24	≤ 15	51	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	
25-29	≤ 15	159	97.5
	20-35	4	2.5
	40-55	0	---
	≥ 55	0	---
	M *	2	
30-34	≤ 15	139	98.5
	20-35	2	1.5
	40-55	0	---
	≥ 55	0	---
	M *	1	
35-39	≤ 15	57	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	
40-44	≤ 15	14	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	
45-49	≤ 15	4	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	

Table A-44 (continued).

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
50 ≥	≤ 15	None	
	20-35		
	40-55		
	≥ 55		
	M *		

* Missing (not included in percentages)

** Includes active duty, reserve and National Guard

*** Decibels

Table A-45.

Female left ear (1000 Hz)
stratified by age-group.

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
≤ 24	≤ 15	51	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	
25-29	≤ 15	158	96.9
	20-35	5	3.1
	40-55	0	---
	≥ 55	0	---
	M *	2	
30-34	≤ 15	136	99.3
	20-35	1	.7
	40-55	0	---
	≥ 55	0	---
	M *	1	
35-39	≤ 15	56	98.2
	20-35	1	1.8
	40-55	0	---
	≥ 55	0	---
	M *	0	
40-44	≤ 15	14	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	
45-49	≤ 15	4	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	

Table A-45 (continued).

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
50 ≥	≤ 15	None	
	20-35		
	40-55		
	≥ 55		
	M *		

* Missing (not included in percentages)

** Includes active duty, reserve and National Guard

*** Decibels

Table A-46.

Female right ear (2000 Hz)
stratified by age-group.

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
≤ 24	≤ 15	49	96.1
	20-35	2	3.9
	40-55	0	---
	≥ 55	0	---
	M *	0	
25-29	≤ 15	156	95.7
	20-35	7	4.3
	40-55	0	---
	≥ 55	0	---
	M *	2	
30-34	≤ 15	134	97.8
	20-35	3	2.2
	40-55	0	---
	≥ 55	0	---
	M *	1	
35-39	≤ 15	55	96.5
	20-35	2	3.5
	40-55	0	---
	≥ 55	0	---
	M *	0	
40-44	≤ 15	13	92.9
	20-35	1	7.1
	40-55	0	---
	≥ 55	0	---
	M *	0	
45-49	≤ 15	4	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	

Table A-46 (continued).

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
50 ≥	≤ 15	None	
	20-35		
	40-55		
	≥ 55		
	M *		

* Missing (not included in percentages)

** Includes active duty, reserve and National Guard

*** Decibels

Table A-47.

Female left ear (2000 Hz)
stratified by age-group.

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
≤ 24	≤ 15	49	96.1
	20-35	2	3.9
	40-55	0	---
	≥ 55	0	---
	M *	0	
25-29	≤ 15	159	97.5
	20-35	4	2.5
	40-55	0	---
	≥ 55	0	---
	M *	2	
30-34	≤ 15	133	97.1
	20-35	4	2.9
	40-55	0	---
	≥ 55	0	---
	M *	1	
35-39	≤ 15	54	94.7
	20-35	3	5.3
	40-55	0	---
	≥ 55	0	---
	M *	0	
40-44	≤ 15	13	92.9
	20-35	1	7.1
	40-55	0	---
	≥ 55	0	---
	M *	0	
45-49	≤ 15	4	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	

Table A-47 (continued).

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
50 ≥	≤ 15	None	
	20-35		
	40-55		
	≥ 55		
	M *		

* Missing (not included in percentages)

** Includes active duty, reserve and National Guard

*** Decibels

Table A-48.

Female right ear (3000 Hz)
stratified by age-group.

Age-group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
≤ 24	≤ 15	50	98.0
	20-35	1	2.0
	40-55	0	---
	≥ 55	0	---
	M *	0	
25-29	≤ 15	158	96.9
	20-35	5	3.1
	40-55	0	---
	≥ 55	0	---
	M *	2	
30-34	≤ 15	130	94.9
	20-35	7	1.8
	40-55	0	---
	≥ 55	0	---
	M *	1	
35-39	≤ 15	54	94.7
	20-35	3	5.3
	40-55	0	---
	≥ 55	0	---
	M *	0	
40-44	≤ 15	13	92.9
	20-35	1	7.1
	40-55	0	---
	≥ 55	0	---
	M *	0	
45-49	≤ 15	2	50.0
	20-35	2	50.0
	40-55	0	---
	≥ 55	0	---
	M *	0	

Table A-48 (continued).

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
50 ≥	≤ 15	None	
	20-35		
	40-55		
	≥ 55		
	M *		

* Missing (not included in percentages)

** Includes active duty, reserve and National Guard

*** Decibels

Table A-49.

Female left ear (3000 Hz)
stratified by age-group.

Age-group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
≤ 24	≤ 15	50	98.0
	20-35	1	2.0
	40-55	0	---
	≥ 55	0	---
	M *	0	
25-29	≤ 15	154	95.7
	20-35	6	3.7
	40-55	1	.6
	≥ 55	0	---
	M *	2	
30-34	≤ 15	126	92.0
	20-35	11	2.0
	40-55	0	---
	≥ 55	0	---
	M *	1	
35-39	≤ 15	52	91.2
	20-35	5	8.8
	40-55	0	---
	≥ 55	0	---
	M *	0	
40-44	≤ 15	13	92.9
	20-35	1	7.1
	40-55	0	---
	≥ 55	0	---
	M *	0	
45-49	≤ 15	3	75.0
	20-35	1	25.0
	40-55	0	---
	≥ 55	0	---
	M *	0	

Table A-49 (continued).

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
50 ≥	≤ 15	None	
	20-35		
	40-55		
	≥ 55		
	M *		

* Missing (not included in percentages)

** Includes active duty, reserve and National Guard

*** Decibels

Table A-50.

Female right ear (4000 Hz)
stratified by age-group.

Age-group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
≤ 24	≤ 15	50	98.0
	20-35	1	2.0
	40-55	0	---
	≥ 55	0	---
	M *	0	
25-29	≤ 15	155	95.1
	20-35	8	4.9
	40-55	0	---
	≥ 55	0	---
	M *	2	
30-34	≤ 15	124	90.5
	20-35	13	9.5
	40-55	0	---
	≥ 55	0	---
	M *	1	
35-39	≤ 15	54	94.7
	20-35	3	5.3
	40-55	0	---
	≥ 55	0	---
	M *	0	
40-44	≤ 15	13	92.9
	20-35	1	7.1
	40-55	0	---
	≥ 55	0	---
	M *	0	
45-49	≤ 15	3	75.0
	20-35	1	25.0
	40-55	0	---
	≥ 55	0	---
	M *	0	

Table A-50 (continued).

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
50 ≥	≤ 15	None	
	20-35		
	40-55		
	≥ 55		
	M *		
* Missing (not included in percentages)			
** Includes active duty, reserve and National Guard			
*** Decibels			

Table A-51.

Female left ear (4000 Hz)
stratified by age-group.

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
≤ 24	≤ 15	51	100
	20-35	0	---
	40-55	0	---
	≥ 55	0	---
	M *	0	
25-29	≤ 15	153	93.9
	20-35	9	5.5
	40-55	1	.6
	≥ 55	0	---
	M *	2	
30-34	≤ 15	125	91.2
	20-35	12	8.8
	40-55	0	---
	≥ 55	0	---
	M *	1	
35-39	≤ 15	52	91.3
	20-35	4	7.0
	40-55	1	1.8
	≥ 55	0	---
	M *	0	
40-44	≤ 15	12	85.7
	20-35	2	14.3
	40-55	0	---
	≥ 55	0	---
	M *	0	
45-49	≤ 15	3	75.0
	20-35	1	25.0
	40-55	0	---
	≥ 55	0	---
	M *	0	

Table A-51 (continued)

Age- group	Hearing level dB***	<u>All components**</u> (N=426)	
		N	%
50 ≥	≤ 15	None	
	20-35		
	40-55		
	≥ 55		
	M *		

* Missing (not included in percentages)

** Includes active duty, reserve and National Guard

*** Decibels

Table A-52.

Female right ear (6000 Hz)
stratified by age-group.

Age- group	Hearing level dB***	<u>All components**</u> (N=425)	
		N	%
≤ 24	≤ 15	32	64.0
	20-35	16	32.0
	40-55	2	4.0
	≥ 55	0	---
	M *	1	
25-29	≤ 15	121	74.2
	20-35	42	25.8
	40-55	0	---
	≥ 55	0	---
	M *	2	
30-34	≤ 15	100	73.0
	20-35	36	25.5
	40-55	2	1.5
	≥ 55	0	---
	M *	1	
35-39	≤ 15	47	82.5
	20-35	9	15.8
	40-55	1	1.8
	≥ 55	0	---
	M *	0	
40-44	≤ 15	8	57.1
	20-35	4	28.6
	40-55	2	14.3
	≥ 55	0	---
	M *	0	
45-49	≤ 15	2	50.0
	20-35	1	25.0
	40-55	1	25.0
	≥ 55	0	---
	M *	0	

Table A-52 (continued).

Age- group	Hearing level dB***	<u>All components**</u> (N=425)	
		N	%
50 ≥	≤ 15	None	
	20-35		
	40-55		
	≥ 55		
	M *		

* Missing (not included in percentages)

** Includes active duty, reserve and National Guard

*** Decibels

Table A-53.

Female left ear (6000 Hz)
stratified by age-group.

Age- group	Hearing level dB***	<u>All components**</u> (N=425)	
		N	%
≤ 24	≤ 15	34	68.0
	20-35	14	28.0
	40-55	1	2.0
	≥ 55	1	2.0
	M *	1	
25-29	≤ 15	111	68.1
	20-35	46	28.2
	40-55	6	3.7
	≥ 55	0	---
	M *	2	
30-34	≤ 15	90	65.7
	20-35	38	27.7
	40-55	8	5.8
	≥ 55	1	.7
	M *	1	
35-39	≤ 15	33	57.9
	20-35	22	38.6
	40-55	2	3.5
	≥ 55	0	---
	M *	0	
40-44	≤ 15	7	50.0
	20-35	6	42.9
	40-55	1	7.1
	≥ 55	0	---
	M *	0	
45-49	≤ 15	2	50.0
	20-35	1	25.0
	40-55	1	25.0
	≥ 55	0	---
	M *	0	

Table A-53 (continued).

Age- group	Hearing level dB***	<u>All components**</u> (N=425)	
		N	%
50 ≥	≤ 15	None	
	20-35		
	40-55		
	≥ 55		
	M *		

* Missing (not included in percentages)

** Includes active duty, reserve and National Guard

*** Decibels

Initial distribution

Commander, U.S. Army Natick Research,
Development and Engineering Center
ATTN: SATNC-MIL (Documents
Librarian)
Natick, MA 01760-5040

U.S. Army Communications-Electronics
Command
ATTN: AMSEL-RD-ESA-D
Fort Monmouth, NJ 07703

Commander/Director
U.S. Army Combat Surveillance
and Target Acquisition Lab
ATTN: DELCS-D
Fort Monmouth, NJ 07703-5304

Commander
10th Medical Laboratory
ATTN: Audiologist
APO New York 09180

Naval Air Development Center
Technical Information Division
Technical Support Detachment
Warminster, PA 18974

Commanding Officer, Naval Medical
Research and Development Command
National Naval Medical Center
Bethesda, MD 20814-5044

Deputy Director, Defense Research
and Engineering
ATTN: Military Assistant
for Medical and Life Sciences
Washington, DC 20301-3080

Commander, U.S. Army Research
Institute of Environmental Medicine
Natick, MA 01760

Library
Naval Submarine Medical Research Lab
Box 900, Naval Sub Base
Groton, CT 06349-5900

Director, U.S. Army Human
Engineering Laboratory
ATTN: Technical Library
Aberdeen Proving Ground, MD 21005

Commander
Man-Machine Integration System
Code 602
Naval Air Development Center
Warminster, PA 18974

Commander
Naval Air Development Center
ATTN: Code 602-B (Mr. Brindle)
Warminster, PA 18974

Commanding Officer
Armstrong Laboratory
Wright-Patterson
Air Force Base, OH 45433-6573

Director
Army Audiology and Speech Center
Walter Reed Army Medical Center
Washington, DC 20307-5001

Commander, U.S. Army Institute
of Dental Research
ATTN: Jean A. Setterstrom, Ph. D.
Walter Reed Army Medical Center
Washington, DC 20307-5300

Commander, U.S. Army Test
and Evaluation Command
ATTN: AMSTE-AD-H
Aberdeen Proving Ground, MD 21005

Naval Air Systems Command
Technical Air Library 950D
Room 278, Jefferson Plaza II
Department of the Navy
Washington, DC 20361

Director
U.S. Army Ballistic
Research Laboratory
ATTN: DRXBR-OD-ST Tech Reports
Aberdeen Proving Ground, MD 21005

Commander
U.S. Army Medical Research
Institute of Chemical Defense
ATTN: SGRD-UV-AO
Aberdeen Proving Ground,
MD 21010-5425

Commander, U.S. Army Medical
Research and Development Command
ATTN: SGRD-RMS (Ms. Madigan)
Fort Detrick, Frederick, MD 21702-5012

Director
Walter Reed Army Institute of Research
Washington, DC 20307-5100

HQ DA (DASG-PSP-O)
5109 Leesburg Pike
Falls Church, VA 22041-3258

Harry Diamond Laboratories
ATTN: Technical Information Branch
2800 Powder Mill Road
Adelphi, MD 20783-1197

U.S. Army Materiel Systems
Analysis Agency
ATTN: AMXSY-PA (Reports Processing)
Aberdeen Proving Ground
MD 21005-5071

U.S. Army Ordnance Center
and School Library
Simpson Hall, Building 3071
Aberdeen Proving Ground, MD 21005

U.S. Army Environmental
Hygiene Agency
Building E2100
Aberdeen Proving Ground, MD 21010

Technical Library Chemical Research
and Development Center
Aberdeen Proving Ground, MD
21010-5423

Commander
U.S. Army Medical Research
Institute of Infectious Disease
SGRD-UIZ-C
Fort Detrick, Frederick, MD 21702

Director, Biological
Sciences Division
Office of Naval Research
600 North Quincy Street
Arlington, VA 22217

Commander
U.S. Army Materiel Command
ATTN: AMCDE-XS
5001 Eisenhower Avenue
Alexandria, VA 22333

Commandant
U.S. Army Aviation
Logistics School ATTN: ATSQ-TDN
Fort Eustis, VA 23604

Headquarters (ATMD)
U.S. Army Training
and Doctrine Command
ATTN: ATBO-M
Fort Monroe, VA 23651

Structures Laboratory Library
USARTL-AVSCOM
NASA Langley Research Center
Mail Stop 266
Hampton, VA 23665

Naval Aerospace Medical
Institute Library
Building 1953, Code 03L
Pensacola, FL 32508-5600

Command Surgeon
HQ USCENTCOM (CCSG)
U.S. Central Command
MacDill Air Force Base FL 33608

Air University Library
(AUL/LSE)
Maxwell Air Force Base, AL 36112

U.S. Air Force Institute
of Technology (AFIT/LDEE)
Building 640, Area B
Wright-Patterson
Air Force Base, OH 45433

Henry L. Taylor
Director, Institute of Aviation
University of Illinois-Willard Airport
Savoy, IL 61874

Chief, National Guard Bureau
ATTN: NGB-ARS (COL Urbauer)
Room 410, Park Center 4
4501 Ford Avenue
Alexandria, VA 22302-1451

Commander
U.S. Army Aviation Systems Command
ATTN: SGRD-UAX-AL (LTC Gillette)
4300 Goodfellow Blvd., Building 105
St. Louis, MO 63120

U.S. Army Aviation Systems Command
Library and Information Center Branch
ATTN: AMSAV-DIL
4300 Goodfellow Boulevard
St. Louis, MO 63120

Federal Aviation Administration
Civil Aeromedical Institute
Library AAM-400A
P.O. Box 25082
Oklahoma City, OK 73125

Commander
U.S. Army Academy
of Health Sciences
ATTN: Library
Fort Sam Houston, TX 78234

Commander
U.S. Army Institute of Surgical Research
ATTN: SGRD-USM (Jan Duke)
Fort Sam Houston, TX 78234-6200

AAMRL/HEX
Wright-Patterson
Air Force Base, OH 45433

John A. Dellinger,
Southwest Research Institute
P. O. Box 28510
San Antonio, TX 78284

Product Manager
Aviation Life Support Equipment
ATTN: AMCPM-ALSE
4300 Goodfellow Boulevard
St. Louis, MO 63120-1798

Commander
U.S. Army Aviation
Systems Command
ATTN: AMSAV-ED
4300 Goodfellow Boulevard
St. Louis, MO 63120

Commanding Officer
Naval Biodynamics Laboratory
P.O. Box 24907
New Orleans, LA 70189-0407

Assistant Commandant
U.S. Army Field Artillery School
ATTN: Morris Swott Technical Library
Fort Sill, OK 73503-0312

Commander
U.S. Army Health Services Command
ATTN: HSOP-SO
Fort Sam Houston, TX 78234-6000

U.S. Army Dugway Proving Ground
Technical Library, Building 5330
Dugway, UT 84022

U.S. Army Yuma Proving Ground
Technical Library
Yuma, AZ 85364

AFFTC Technical Library
6510 TW/TSTL
Edwards Air Force Base,
CA 93523-5000

Commander
Code 3431
Naval Weapons Center
China Lake, CA 93555

Aeromechanics Laboratory
U.S. Army Research and Technical Labs
Ames Research Center, M/S 215-1
Moffett Field, CA 94035

Sixth U.S. Army
ATTN: SMA
Presidio of San Francisco, CA 94129

Commander
U.S. Army Aeromedical Center
Fort Rucker, AL 36362

U.S. Air Force School
of Aerospace Medicine
Strughold Aeromedical Library Technical
Reports Section (TSKD)
Brooks Air Force Base, TX 78235-5301

Dr. Diane Damos
Department of Human Factors
ISSM, USC
Los Angeles, CA 90089-0021

U.S. Army White Sands
Missile Range
ATTN: STEWS-IM-ST
White Sands Missile Range, NM 88002

U.S. Army Aviation Engineering
Flight Activity
ATTN: SAVTE-M (Tech Lib) Stop 217
Edwards Air Force Base, CA 93523-5000

Ms. Sandra G. Hart
Ames Research Center
MS 262-3
Moffett Field, CA 94035

Commander, Letterman Army Institute
of Research
ATTN: Medical Research Library
Presidio of San Francisco, CA 94129

Commander
U.S. Army Medical Materiel
Development Activity
Fort Detrick, Frederick, MD 21702-5009

Commander
U.S. Army Aviation Center
Directorate of Combat Developments
Building 507
Fort Rucker, AL 36362

U. S. Army Research Institute
Aviation R&D Activity
ATTN: PERI-IR
Fort Rucker, AL 36362

Commander
U.S. Army Safety Center
Fort Rucker, AL 36362

U.S. Army Aircraft Development
Test Activity
ATTN: STEBG-MP-P
Cairns Army Air Field
Fort Rucker, AL 36362

Commander U.S. Army Medical Research
and Development Command
ATTN: SGRD-PLC (COL Schnakenberg)
Fort Detrick, Frederick, MD 21702

MAJ John Wilson
TRADOC Aviation LO
Embassy of the United States
APO New York 09777

Netherlands Army Liaison Office
Building 602
Fort Rucker, AL 36362

British Army Liaison Office
Building 602
Fort Rucker, AL 36362

Italian Army Liaison Office
Building 602
Fort Rucker, AL 36362

Directorate of Training Development
Building 502
Fort Rucker, AL 36362

Chief
USAHEL/USAAVNC Field Office
P. O. Box 716
Fort Rucker, AL 36362-5349

Commander U.S. Army Aviation Center
and Fort Rucker
ATTN: ATZQ-CG
Fort Rucker, AL 36362

Chief
Test & Evaluation Coordinating Board
Cairns Army Air Field
Fort Rucker, AL 36362

MAJ Terry Newman
Canadian Army Liaison Office
Building 602
Fort Rucker, AL 36362

German Army Liaison Office
Building 602
Fort Rucker, AL 36362

LTC Patrice Cottebrune
French Army Liaison Office
USAAVNC (Building 602)
Fort Rucker, AL 36362-5021

Australian Army Liaison Office
Building 602
Fort Rucker, AL 36362

Dr. Garrison Rapmund
6 Burning Tree Court
Bethesda, MD 20817

Commandant, Royal Air Force
Institute of Aviation Medicine
Farnborough Hampshire GU14 6SZ UK

Commander
U.S. Army Biomedical Research
and Development Laboratory
ATTN: SGRD-UBZ-I
Fort Detrick, Frederick, MD 21702

Defense Technical Information
Cameron Station, Building 5
Alexandra, VA 22304-6145

Commander, U.S. Army Foreign Science
and Technology Center
AIFRTA (Davis)
220 7th Street, NE
Charlottesville, VA 22901-5396

Director,
Applied Technology Laboratory
USARTL-AVSCOM
ATTN: Library, Building 401
Fort Eustis, VA 23604

Commander, U.S. Air Force
Development Test Center
101 West D Avenue, Suite 117
Eglin Air Force Base, FL 32542-5495

Commander, U.S. Army Missile
Command
Redstone Scientific Information Center
ATTN: AMSMI-RD-CS-R
/ILL Documents
Redstone Arsenal, AL 35898

Dr. H. Dix Christensen
Bio-Medical Science Building, Room 753
Post Office Box 26901
Oklahoma City, OK 73190

Director
Army Personnel Research Establishment
Farnborough, Hants GU14 6SZ UK

U.S. Army Research and Technology
Laboratories (AVSCOM)
Propulsion Laboratory MS 302-2
NASA Lewis Research Center
Cleveland, OH 44135

Col. Otto Schramm Filho
c/o Brazilian Army Commission
Office-CEBW
4632 Wisconsin Avenue NW
Washington, DC 20016

Dr. Eugene S. Channing
7985 Schooner Court
Frederick, MD 21701-3273

LTC Gaylord Lindsey (5)
USAMRDC Liaison at Academy
of Health Sciences
ATTN: HSHA-ZAC-F
Fort Sam Houston, TX 78234

Aviation Medicine Clinic
TMC #22, SAAF
Fort Bragg, NC 28305

Dr. A. Kornfield, President
Biosearch Company
3016 Revere Road
Drexel Hill, PA 29026

NVEOD
AMSEL-RD-ASID
(Attn: Trang Bui)
Fort Belvoir, VA 22060

CA Av Med
HQ DAAC
Middle Wallop
Stockbridge Hants S020 8DY UK

Commander and Director
USAE Waterways Experiment Station
ATTN: CEWES-IM-MI-R
Alfrieda S. Clark, CD Dept.
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Mr. Peter Seib
Human Engineering Crew Station
Box 266
Westland Helicopters Limited
Yeovil, Somerset BA202YB UK

Dr. Christine Schlichting
Behavioral Sciences Department
Box 900, NAVUBASE NLON
Groton, CT 06349-5900

COL C. Fred Tyner
U.S. Army Medical Research
& Development Command
SGRD-ZB
Fort Detrick, Frederick, MD 21702-5012

COL John F. Glenn
U.S. Army Medical Research
& Development Command
SGRD-ZC
Fort Detrick, Frederick, MD 21702-5012